Encounters and Transitions

The Times of My Life

Paul Raskin

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Life Matters

A TV appeared in our family room in the early fifties pouring forth an endless stream of distractions—and an uplifting experience that lodged forever in my psyche. Although most shows were insipid or inane, even for a kid, gems like Sid Caesar and Crusader Rabbit kept me glued to the wooden console. One blessed evening, my vigil at the idiot box was rewarded with a mind-altering epiphany.

A striking sequence of images flashed on the snowy screen. The first was a crude depiction of planet Earth as seen from outer space. The second zoomed down to hover over North America. The third zeroed in on Southern California, where Los Angeles was marked by a big star pinpointing the very spot where I sat. A jaw-dropping revelation struck me: I could go the other way! Fortune made me an Angeleno, but it wasn't a life sentence. The outbound journey beckoned.

I grew up in North Hollywood, the ideal hometown for nurturing a deracinated citizen of the world. Roots don't go deep in a wasteland, as the tumbleweeds rolling by my house demonstrated (until developers paved over the rest of the San Fernando Valley). The vast jumble of the place was, to paraphrase a line from Saul Bellow, as if the country had been picked up by its northeast corner and everything that wasn't tightly screwed down slid to the southwest corner. The alienating hodgepodge that was LA, along with the cosmopolitan allure of San Francisco and New York City, the destinations of family holidays, fed a restless longing to expand the ambit of my experience.

As time passed, the lure of far-off places expanded to far-reaching ideas, not least in the realms of theoretical physics and the human condition. A hungry curiosity, and fear of missing out (FOMO avant la lettre), carried me off the beaten path geographically, philosophically, and politically. Had I come of age in a time of social stability, such deviation from the mainstream might have been the primrose path to isolation and eccentricity. But my life, arcing from World War Two to the turbulent contemporary world, has coincided with an era of tumultuous change. These serendipitous circumstances propelled me, a radical searcher, to the frontiers of engagement with critical issues of our historic moment.

We live on a different planet than the one I landed on in 1942. That was before the calamitous degradation of the biosphere by human activity. Before transnational capitalism deepened fissures among people, across generations, and between humanity and other species. Before the globalization of everything linked the destinies of people, nations, and planet. Before an unjust present and uncertain future enflamed a culture of anger and despair, and a politics of nativism and demagoguery.

Existential threats—mid-twentieth-century fascism and twenty-first-century systemic crisis—have bookended my life. The "greatest generation" rose to the challenge, defeating the genocidal madmen and giving humanity a new opportunity to nurture a flourishing, sustainable civilization. Instead, the merchants of greed and power won the peace, ushering in an age of turbo-capitalism, unabated nationalism, and environmental depredation. These malfeasant decades have left us with a nexus of interacting crises—a *polycrisis*—that bodes ill for a civilized future. Will a new great generation arise to turn the trajectory of history from madness to renewed possibility?

For now, deepening risks and elusive solutions swell the ranks of pessimism and catastrophism. Still, the rolling dialectic of history will bring countercurrents, surprises, and glimmers of hope. In our era—I call it the *Planetary Phase of Civilization*—the age-old cosmopolitan ideal of one world, rather than quixotic, resonates with the contemporary predicament. Material conditions have made the emergence of a flourishing world civilization in the coming decades an objective possibility—and an existential necessity. Envisioning this *Great Transition*—and nurturing a movement to bring it forth—has been the capstone of my work.

Pete Seeger (more on Pete later) liked to tell the story of two maggots clinging to a shovel. One falls off and lands in a deep crack in the sidewalk. The other lands in the carcass of a dead cat, which the lucky maggot eats for three straight days. Finally, he humps over to the crack in the sidewalk, looks down, and hollers, "How are you doing, brother?" His brother could barely speak: "I haven't eaten in three days. But you, you're so fat and sassy. To what do you attribute your success?" "Brains and personality! Brains and personality!"

I have been a lucky maggot, well-nourished in body, soul, and fellowship. Now I marshal my remaining brains and personality to recall some notable people, times, and ideas I've encountered in these decades of transformational change. The stories tap into facets of my life as an activist, futurist, scientist, institution-builder, and musician. I have had a ringside seat in this fraught era, risen to join the fray, and crossed paths with colorful characters. I hope these vignettes inspire readers of a certain age to muse on their parallel adventures and leave younger readers with a core message: Despite it all, life matters.

Red Diapers

My childhood home was sunny with ideals inside, murky with LA smog outside. While acrid air enveloped our modest house, within its walls dreams of a better world brightened the atmosphere. The pollution gave me a bronchial tickle, foreshadowing respiratory complaints to come; the ambient hope indoors seeded my later quests for bluer skies. Back then, I fixated on the quotidian challenges of growing up, while my parents' lives were buoyed by visions of a socialist tomorrow—until sordid news from Russia punctured the dream and darkened the mood.

Party Time

Jack Raskin and Marian Kanat came of age in a time and place tailor-made for radicalizing any young adult with a beating heart and idealistic spirit. The Great Depression hit Detroit hard, upending lives and revealing the callous indifference and structural dysfunction of 1930s industrial capitalism. The Motor City became an epicenter of a class conflict that pitted the captains of industry and their political allies against labor unions and fellow travelers. When workers' demands for jobs and relief were ignored, peaceful protests segued to militant mass strikes, harsh suppression, and further escalation.

Young Jack and Marian, attuned to the plight of the downtrodden, joined the struggle. They picketed, sat in, organized rent strikes, and, like many of their generation, enrolled in the Communist Party USA. In those confusing and alarming days, the Party offered a framework for understanding the crisis and an organization for doing something about it. With the capitalist system reeling, the Party's strategy of building a unified working-class movement capable of driving a transition to socialism seemed possible.

More than a vehicle for political action, the Party offered cultural space where members could cultivate friendships, develop skills, and find meaning and collective purpose. Lucky for me, since my parents met at a meeting of the Pen and Hammer Club, a weekly gathering to discuss literature from a Marxist perspective. The Club's allure for my mother, an aspiring writer and avid reader, was intellectual stimulation and literary exploration. The allure for my father was, he recounted, "The beautiful firebrand, Marian Kanat."

My mother was already a dynamo at age two when her family emigrated from Berezhnytsya, a small village in Poland at the time, which later border-shifted to western Ukraine. Meshuggeneh Mialeh (Crazy Molly, her family nickname) launched her protest career upon arrival at Ellis Island by biting the hand of the immigration agent who reached out to inspect her. This oft-retold tale of a toddler's

defiance was a source of great pride for my mother. After stints in New York's Lower East Side and Washington, DC, the family settled in Detroit, where my Yiddish-speaking grandparents opened a corner grocery store and raised my mother and her four US-born siblings. My grandfather Peretz, who later lived with us in LA, was sweet, unassuming, and passive. My forceful grandmother Yetta, who died when I was two, was the family's anchor and attractor of Old Country friends and relatives who swelled the ranks of immigrant Detroit.

My father was born in Detroit. According to family lore, his parents, Abe and Sadie, had been active in the anti-tsarist movement in their native Russia, then fled to the United States after the failed revolution of 1905. My grandfather became a metallurgist for the Ford Motor Company in Dearborn, outside of Detroit, later establishing a foundry for the company. In 1931, he eagerly accepted Ford's invitation to supervise the construction of a tractor factory in Soviet Russia. For his contribution, his name was added to the Stalingrad Red Banner Honour Roll, awarded in tribute to Felix Dzerzhinsky, the notorious head of the Cheka (the Soviet secret police). Abe, Sadie, and their youngest, my Aunt Eleanor, returned to Russia two years later to set up a factory in Chelyabinsk, a city located a thousand miles east of Moscow. Fulfilled in the Soviet Union, Grandpa would have happily made Russia their home, but Grandma insisted on returning to Detroit. In the late 1940s, they moved to LA to be near their family. Abe remained a lifelong socialist, but he left his heart in Russia and never recovered a lust for life.

Americanism and its Discontents

I was born in Chicago, where my father, a chemical engineer, was assigned to a war-related project. After a few months, our family returned to Detroit. I retain vivid two-year-old memory snapshots of that time, especially scrubbing two dirty metal chairs on our front porch with a bucket of soapy water. In 1945, we moved to Los Angeles, where Dad had taken an executive position at a new branch of the L. H. Butcher Company, the Detroit-based metal plating firm where he had steadily advanced. On my third birthday, my mother, older sister Judy, and I boarded a train for the trek west to join my father, who had gone ahead to find us a house. The thrill of that rumbling train ride—the vibrating seats, the pastoral scenes of the rural heartland and rugged views of the rocky West, and the white tablecloths in the elegant dining car—still lingers in my romantic imagination and abiding love for train songs.

After a few years in a tiny house in Burbank, we moved to a newly built tract house in North Hollywood. My parents had very different temperaments—my mother was intense and opinionated; my father was easygoing and accommodating—but they shared a strong devotion to each other, their children, and The Cause. Guided by the old Party slogan, "Communism is twentieth century Americanism," they set about creating an ideal American family displaying strong values, community spirit, and, most important, high-performing, well-rounded children. These law-abiding rank-and-filers were more Ozzie and Harriet than the sinister caricatures then depicted on TV in *I Led Three Lives* and, more recently, *The Americans*.

Good Americans that they tried to be, my parents could not shield their children from the menace of the McCarthy era. The harassment was not subtle: sometimes coming home from school, I'd encounter FBI agents sitting in a black sedan parked in front of our house. Once, my father took me along to pass out leaflets in Pacoima for a Black candidate running for local office, and a burly brute grabbed the leaflets screaming "Go back to Russia!" And "What kind of father would bring his child!" Astonishingly, Dad knocked him back with a punch to the chin, leaving me both proud and terrified. As the big oaf grumbled off, we continued our work.

A few years later, my Cub Scout troop was staging a minstrel show starring us scouts in blackface. When my parents got wind of it, they sat me down and patiently explained that participating would condone racial bigotry. I willingly dropped out, but then felt the sting of a bitter pack of betrayed eleven-year-olds.

Most ominously, my parents and their comrades feared fascism in America was imminent. Friends in leadership positions vanished to the Party's underground, leaving their children orphaned, at least temporarily. Would I, too, be temporarily orphaned, or even permanently so like my contemporaries, the Rosenberg boys? The sense of foreboding deepened when my parents, as a contingency, had my sister and me make a trial flight to Detroit, where my mother's apolitical relatives would take us in, if necessary.

Party Over

For my stoical parents, enduring the red-baiting and persecution was the price to be paid for standing on the right side of history. Then, in February 1956, everything changed, and the ground shifted under our family. In his momentous speech to the 20th Congress of the Soviet Communist Party, Nikita Khrushchev denounced Josef Stalin in no uncertain terms, including details on the dictator's long resume of heinous crimes.

The Party had long written off accusations of malfeasance behind the Iron Curtain as Western disinformation or the distortions of God-that-failed anti-communists (my father quipped that he could handle being wrong, but not them being right). Still, coming from the lips of Secretary General Khrushchev, the ugly truth could not be denied. The speech left my parents, like many other members, shaken, feeling betrayed by the Party propaganda machine and abashed by their own credulity. The time had come to resign and lick some deep wounds.

Although devastating for them, Khrushchev's revelations were great for me—I got a swimming pool out of the geopolitical kerfuffle. During the Party years, our family had been living well below its means (my father was a well-paid senior executive). We abjured bourgeois ostentation (except for the biannual Buick), while donating substantial sums to various causes, especially the left-wing newspaper *The Peoples World*. When the world turned upside down, the stream of money that had been flowing to the Party's coffers was diverted, as a liquid asset you might say, to the hole in my backyard. I christened it The Nikita Khrushchev Memorial Swimming Pool.

Dancing On

Although my parents lost their political identity and ideological certainty, they kept their humanistic values and abhorrence of bigotry, militarism, and dog-eat-dog capitalism. Freed from incessant meetings, my father and former comrades fished, golfed, and played poker, yet still found time to canvass for progressive politicians and join protest marches. My mother's long hair gave way to a chic coif, and her previously unadorned neck for a time sported a string of pearls. But the inner radical with no penchant for jewelry persisted, often erupting in a world teeming with provocations.

In the 1960s, my father's small plating firm was acquired by Occidental Petroleum, a behemoth that required all its executives to sign a "loyalty oath." He was prepared to resign when Armand Hammer, head of the company, and legendary uber-capitalist, art collector, and confidant of Vladimir Lenin, personally intervened to find a work-around for keeping Raskin on board. So began an unlikely friendship. Later, my father pulled back to a consultancy role, rented a large studio near my parents' home in Santa Monica, and turned to long-deferred artistic and scientific passions, especially creating whimsical, beautifully crafted metal sculptures and conducting elaborate hydroponics experiments, his studio a tangle of tubes carrying nutrients to soilless tomatoes.

My mother's rabble-rousing spirit found expression in March of 1962 when she happened to be visiting me in Berkeley the week JFK came to town to give a major address. Enthusiastically, she joined a meeting to plan a protest march to the Greek Theater, where Kennedy was to give his speech. In New

Left style, our list of issues was all over the map: “End Mandatory ROTC,” “Ban the Bomb,” “Hands Off Cuba,” “Free Speech,” etc. Aghast at the proliferating slogans, my Old Leftie mother pointedly asked the roomful of student activists, “What’s the line?” Her plea for a unified message disregarded, she opted to satirize the mish-mash politics of her fellow protesters. On the day of the march, her sign read “Free Tom Mooney,” a wry reference to the political prisoner who had been a cause célèbre in her own youth decades earlier.

On a Saturday afternoon in May 1964, by then a seasoned protester myself, I joined a huge demonstration at the Sheraton Hotel in San Francisco to challenge the company’s racist hiring practices. For hours, we marched around the building singing and chanting. At the appointed time, we took positions in the hotel’s doorways, joining arms to block passage in or out. Gradually, the police began peeling off protesters by the hundreds, ushering them unceremoniously into waiting vans to be transported to local precincts for booking. When the men in blue finally reached my location, our lawyers ran up to announce that we were out of bail money, so no more arrests. We, the sadly unarrested, resumed circling the Sheraton through the night. At dawn, I motorcycled back to Berkeley, pulled up to my apartment, and opened the door to a ringing phone. It was my mortified mother, lamenting, “Joey Shields got arrested. Patsy Kovner got arrested. Where the hell were you?” Her old comrades the Shields and the Kovners got the bragging rights that time.

Much later, in 1987, I urged my widowed mother, who kept her savings under the proverbial mattress, to diversify her portfolio, as financial experts advised. But with capitalism perennially on the brink of collapse, she wouldn’t hear of it. I persisted, and, I believe to please me, she eventually relented. So it was that on Thursday, October 15, she invested the bulk of her assets in a mutual fund. Four days later, her prophecy of doom was fulfilled. On Black Monday, the stock market suffered its largest one-day loss ever. That evening, my mother had one word for me: “See!” Never again would she play their rigged game, so the lost money stayed lost. But the vindication was significant compensation.

My octogenarian mother’s last battle was fought against the powers-that-be of Claremont House, an elder living facility in Oakland where she had moved to be near my sister in Berkeley. The issue was literally a matter of life and death: the quality of food served to elderly, frail residents. Three times daily, Claremont offered them bland fare laced with salt and preservatives. Meshuggeneh Mialeh went to work organizing the aggrieved and the able into a protest campaign demanding nutritious meals rich in fresh fruits and vegetables. A few months on, the rebels gathered in the dining hall to celebrate their victory, clinking cups of herbal tea and enjoying a wholesome meal.

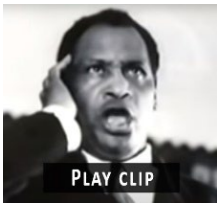
Luminaries

Paul Robeson

I was named after the great Paul Robeson. His dazzling accomplishments—singer, actor, writer, polylinguist, All-American athlete, world citizen, justice crusader—were enough to fill a jaded adult with awe. For an eponymous naïf like me, the man was godlike. Until I was nine, Robeson was a mythical presence in my imagination, rather like Superman. That's when he came to town to give a concert in a small venue in the San Fernando Valley.

Arriving early, I sat near the front flanked by my parents as the place filled and tension built. Looking up, way up—he really was bigger than life!—I saw my superhero walk to the mic and scan the audience (did he look at me?). Robeson nodded to his accompanist Lawrence Brown at the piano, and the magic began. His rich bass-baritone carried us to faraway times and places with spellbinding ballads, spirituals, lullabies, and blues. They were all good, but what got me were the thunderous songs about workers, slaves, and anti-fascists fighting the good fight. When he belted those out, my whole body resonated in sympathetic vibration. I was flooded with emotions I hadn't known existed, which I would experience again in rare moments when I felt part of a collective purpose larger than myself.

That night, Robeson's encore was "Ol' Man River," a song from the musical *Showboat* that he had recorded and popularized in the 1930s. In the final verse of the original lyric, the character Joe is submissive and frightened: "I'm tired of livin' and scared of dyin'." Robeson changed the line to a proclamation of fearless defiance: "I must keep fightin' until I'm dyin'." So that's what it would take to live up to my name!



Many years later, I wrote the song "Heroes," inspired by that evening so long ago. The first verse channels my nine-year-old self:

A proud black man, upon the stage he loomed.
He sang us 'round the world, his deep voice filled the room.
And bathing us in his dignity and grace
He sang for his people and the whole human race.

Of course, the courageous integrity and unbending idealism that made Robeson a hero to families like mine made him a dangerous anti-hero to the redbaiters of the day. His steadfast advocacy of rights and socialism was anathema to the hidebound bigots who persecuted him. The song continues:

The witch hunt jackals tried to silence his song
But his "old man river" just kept rolling along.
Louder than the hatred and lyin'
He sang: "I must keep fighting until I'm dying"

In the summer of 1952, my family drove to a stadium in Culver City to attend a big rally for Vincent Hallinan and Charlotta Bass, presidential and vice-presidential candidates of the Independent Progressive Party (IPP). After a few fiery speeches, Paul Robeson walked on the stage greeted by a cacophonous standing ovation. He sang a few songs (again that tingly feeling), closing with the inspiring "We Shall Not Be Moved." The tune lingered in my ears as we dispersed into the night for the long ride home.

Not long after we arrived, the phone rang. My mother answered, and the voice on the other end told her to turn on the radio and then register a protest. The radio reporter, who had come directly from the IPP rally, was describing the crowd as a bunch of glassy-eyed zombies (my mom and dad!). The worst were the irresponsible parents who had the gall to bring their children, exposing them to anti-Americans like Paul Robeson. My indelible introduction to misinformation.

To a large degree, the reactionaries prevailed. As the radical impulse that gave rise to past heroes waned, icons like Robeson became scarce:

There was Eugene Debs, Mother Jones, and old Big Bill
Elizabeth Gurly Flynn and the martyr Joe Hill
Florence Reece in Kentucky asked "which side are you on?"
Martin Luther King dreamed that we could live as one.

There was Ghandi and Che, Rosa and Ho
All the keepers of the vision of a world made whole
You can take all the glitter from today's celebrities
They wouldn't hold a candle next to beacons like these.

As the chorus suggests, heroes didn't fall from the sky; they were conjured by collective struggles and hopes:

Where are the heroes?
Of yesterday
On our dreams they rose
Now the heroes have gone away.

Still, the wheel of history remains in spin, and we may not have seen the last of the heroes:

Where are the heroes?
Of today
When we dream as we did long ago
New heroes will find their way.

Pete Seeger

Passing my teenage years sequestered in Outer Vulgaria, aka suburban Los Angeles, I counted the days until I could make my escape to the sanctuary city of Berkeley. I served my time finding solace where I could, not least from a lanky banjo picker who brightened dreary days with music, stories, and a soaring spirit. Pete was a magician able to alchemize concert halls into communities of solidarity, determination, and joy. I came away from every concert and every new album resolved to sing, pick, care, and protest more. I wore out his records, devoured his writing, and cheered his courageous defiance of the red-baiters. Pete was my inspiration and model.

I spent a whole summer cloistered in our garage making a banjo neck just like his (and him), long and true. Then off I went to college, and miracle of miracles, I met Pete face-to-face and even played music with him! On a Saturday in May 1961, I awoke with nothing planned until evening, when I would drive across the Bay Bridge to Union Hall in San Francisco, where my high school savior was giving a concert. Out of the blue, I got an excited call from a usually phlegmatic friend: "Get your ass over to the First Unitarian Church on Bancroft Way. Pete's there meeting with student folkies!" Incredible. I grabbed my banjo—the one with the homemade neck—and sprinted to the church, a rustic architectural gem, to witness the closest facsimile I'll ever know of a divine visitation.

For the next three hours, Pete talked, picked, and sang for (and with) a handful of us supplicants. He took us on a wondrous, song-filled journey through American history, his own eventful life, and the singular comrades who influenced him, like Woody Guthrie, Leadbelly, and many others. His

recurrent theme was the “power of song”—the link between folk music and social justice, a particularly poignant connection as Pete was then facing long prison time for taking the First Amendment (free speech) in refusing to cooperate with HUAC (not the safer Fifth protecting against self-incrimination). I floated away that afternoon with psychic doors pried opened and soul nudged in new directions—PTSD in reverse.

This story has an improbable sequel that I cherish to this day. In the spring of 1975, I was chairing an interdisciplinary college at SUNY Albany, where I offered a course on folk songs as a key to the history of ordinary people (wonder where I got that idea). Lo and behold, it came to my attention that Pete was coming to Albany to give a concert. Without hesitation, I sat down and composed a letter to him describing that session at the Berkeley Unitarian Church back in ‘61 and how meaningful the experience had been to an undergraduate like me. I also included the syllabus for the course I was teaching that was inspired by that day long ago. “Pete,” I wrote, “I’d be so grateful if my students could have the experience I once did.” A few days later, his wife Toshi called to say, “Pete was very moved by your note and would love to do it.”

So, on a Saturday afternoon in May 1975, before his evening concert, Pete spent several hours taking a roomful of my students on that wondrous journey (I have it all on cassette). Joining us were my Seeger-admiring parents, who happened to be visiting from LA (my dad shot the photo), and my wife Pamela and 5-year-old daughter Jenny. I like to think that more than one spellbound youngster was propelled that day, as I had been years before, toward lives of hope and engagement.

Just before it was time to go, I asked Pete: “When you were blacklisted in the 1950s, you were at the height of your fame following those hit records by your group, The Weavers. What if back then you had been given 10 minutes of prime time on network TV? What would you have sung?” With a faraway look in his eyes, he paused, then picked up his 12-string guitar and sang “The Internationale” in the original French.

Allen Ginsberg

When the Beats, pens blazing, rode into the cultural desert of the Fifties, alienated suburban teenagers like me took note. If a hip outlaw like Jack Kerouac could hit the open road, leaving the square mainstream in the dust, well, why not? If Allen Ginsberg could see "the best minds of my generation destroyed by madness…dragging themselves through the negro streets at dawn looking for an angry fix," maybe there was more to life than my crowd dragging ourselves to the mall for another burger. Reading Ginsberg's "Howl" in high school, little did I know that before long I would spend time with the ur-Beatnik on two memorable occasions.

The Prophet of Peace

My first Ginsberg encounter occurred at a 1967 demonstration in New York City against the Vietnam War. The theme of the demo was "The War is Over," inspired by a line in his "Wichita Vortex Sutra" that proclaimed, "I here declare the end of the War!" and called on "all Powers of imagination…to make Prophecy." Protest singer Phil Ochs, taken by the notion of ending the war simply by declaring it over, organized the event and wrote a song—"The War is Over"—to publicize it (later released on his *Tape from California* album).

On a brisk November afternoon, we gathered in Washington Square Park to celebrate, with tongue firmly in cheek, the end of the war. Then we streamed uptown toward Times Square, Ochs in the lead pounding his guitar and singing his new song in an endless loop. Directly behind marched Allen Ginsberg alongside yours truly and several hundred joyous revelers sharing the news of peace with the masses of perplexed pedestrians along the route.

As we reached Herald Square, Ginsberg looked up at Macy's department store looming on our left, festooned with holiday lights. Suddenly, he broke ranks, heading for the main entrance with me and a few others in tow. He flung open the big doors, cupped his hands to his mouth, and in his booming bass voice shouted, "Hey folks!" Across the main floor and down from the mezzanine, the eyes of a thousand startled Christmas shoppers turned our way. As the place grew still, the bearded prophet (or a renegade Store Santa?) bellowed ecstatically, "The war is over!" We cheered and exited the store singing Ochs's chorus—*I declare the war is over*—leaving the assembled throngs with something to ponder, or at least a funny-thing-happened-at-Macy's anecdote.

The Shape Changer

Now, flash forward to 1969. Pamela and I were living on the Upper West Side with our pet Puli, awaiting the imminent birth of Jenny. When I wasn't teaching physics at City College, you might find me cruising the crowded streets in our Buick sedan, looking for a parking place able to accommodate a vehicle about the size of our living room. The car was a hand-me-down from my father, who every two years bought a new chrome-laden Buick, an indulgence he practiced even during my family's frugal Communist Party years. But parking the thing had become so burdensome I was secretly relieved when one morning I found a gaping space on Riverside Drive where I had parked the night before. ("By now, it's in a chop shop in Brooklyn," the officer said when I reported the theft.)

Still, without those big wheels, my second encounter with Allen Ginsberg would not have happened. An old friend, Allen Tobias, who had served as Ginsberg's secretary, called one day in November to ask if I could chauffeur the poet to SUNY-Stony Brook on Long Island, where he would be giving a concert. On the appointed Saturday, I drove down to the Lower East Side, picked up Tobias, and headed over a few blocks to Ginsberg's place. We found him waiting at the curb with his partner, the poet Peter Orlovsky, warily eyeing the big bourgeois car pulling up to fetch him.

Orlovsky settled in for the long ride next to a fidgety Ginsberg. No doubt, Ginsberg's public persona—cool Beat Buddhist—was authentic, but another facet of his personality—neurotic Jew from New Jersey—was stirring behind me. Such shpilkes! A two-hour monologue of kvetching and backseat driving began with an interrogation: How long had I been driving? When was the last time I used drugs? Do we need gas? Once on the road, he growled directions like a haywire GPS from the future continually recalibrating.

At long last, we arrived at the campus venue. Ginsberg and the others hurried off to the dressing room as I parked the Buick, then found a seat in the theater. The curtain opened to reveal a marvel of metamorphosis. The nervous chaleria had vanished in a puff of incense, and there stood the other Ginsberg resplendent in a lavender robe. As he rang his bell and chanted his dharma blues, the young audience around me gazed rapturously at the enlightened being before them.

One of the best minds of his generation, rather than destroyed by madness, had become an inspiration to a rising generation—and a consummate entertainer. After the show, the critic Alfred Kazin hosted a reception. Ginsberg charmed the assembled academics, while he admonished me in no uncertain terms to shun the booze. It would be a long ride home.

Paul Feyerabend

I am deeply indebted to Paul Feyerabend for wrecking my physics career. The demolition occurred during the spring semester of 1964 on a Berkeley campus crackling with political and cultural ferment. There at the epicenter of the churning Sixties, all things establishment—capitalism, the megaversity, Jim Crow, parental mores—seemed to be crumbling at their rotting foundations. At least physics, the bedrock of the edifice of knowledge, would stand firm against the winds of change.

Or so I thought until the philosopher-provocateur opened my eyes and torqued my lifeline. At the time of my Feyerabend encounter, I was in the final term of my senior year, an ardent activist and devoted student as likely to be found in the stacks as the street. Indeed, I harbored the ambition of decamping to graduate school in the fall and then moving on to a life in theoretical physics at some ivied sanctum.

But first I had to complete my undergraduate studies with a double major in physics and philosophy. To a callow young man in search of truth, this simultaneous dive into the respective mysteries of material and ideational spheres seemed the right path (and so cool!). But my understanding of the division of epistemological labor—physics would ground objective reality, and philosophy would illuminate the subjective realm—was proving to be simplistic, even inverted.

In philosophy, I could not get enough of another Berkeley professor, the enthralling John Searle, who persuasively made the case for "naïve realism." With relentless logic, he argued that a knowable world existed independent of what we humans think or say about it. Alternative schools of thought fell by the wayside under assault from his lacerating wit. Like all aspiring scientists, I was a naïve realist without knowing it. The existence of an objective, fathomable world was self-evident. Who knew it needed a name?

Astonishingly, the splendid defense of realism emanating from the philosophy department was subverted in, of all places, the physics department. The professors there preached with Searle-like certitude an antithetical ontology—or more precisely, no ontology at all. According to the canonical "Copenhagen interpretation" of quantum mechanics, conjectures about a mind-independent world were utterly meaningless. Modern physics consigned realism, naïve or otherwise, to the dustbin of intellectual history (although apparently the memo had not reached the philosophy department).

In the quantum world, human consciousness was inextricably entangled in observations. The act of observing a phenomenon collapses an admixture of its pre-observational potentialities to a single ping on a measuring instrument. This is the notorious "collapse of the wave function" famously

illustrated by Schrödinger's cat that is both dead and alive until we look and render the poor thing one or the other.

If according to quantum orthodoxy, speculation about a real world was metaphysical claptrap, what were philosophically inclined physicists to do? Some were drawn to positivism; others, taking the primacy of consciousness (aka "the soul") literally, turned to shades of idealism. But almost all practicing scientists just hunkered down, applying the powerful quantum machinery in studied obliviousness to inconsistencies and paradoxes riddling the theory's creaky foundations. Indeed, indoctrinating acolytes into unquestioning adherence to the Church of Copenhagen was (and is) central to the professionalization process. The message has been aptly captured by the dictum "shut-up-and-calculate."

My own shut-up-and-calculate moment had come in my first quantum electrodynamics class. The eminent professor was describing the strange properties of electron spin. At the chalkboard, he drew a magnetic field pointing along the z-axis and a beam of incoming electrons along the x-axis. According to quantum theory, the incoming electron spin is in an indeterminate state until it reaches the magnetic field and is observed. Then, the spin instantaneously jumps into a specific state, randomly pointing either up or down with nothing in between. The role of physics is reduced to accounting for measurements (the probabilities of spin up or spin down), which abandons hope of understanding reality-in-itself (the condition of the incoming electron).

We students were expected to make peace with the microscopic weirdness that reduced physics to predicting outcomes. I could almost buy it, but prodded by a Searlean homunculus stirring within me, I raised a tremulous hand. "How should we picture the electron," I asked, "when we turn off the magnetic field and the electron has no preferred direction for aligning its spin?" The professor walked portentously toward me and sneered, "That's a naïve question," and proceeded to recite the gospel according to Copenhagen. The experience left me chastened, embarrassed, and confused—but unconvinced.

At that time, graduating physics majors were expected to write a "senior thesis" under the supervision of a physics professor. Normally, these exercises focused on some standard topic, but I was not ready to shut up or calculate. So, in seeking a supervisor, I was drawn to the epistemological radical Paul Feyerabend, a renowned philosopher of science with the bona fides of a background in physics. Feyerabend was a mythic figure on campus. Rumors swirled of his colorful and paradoxical background: he was Karl Popper's protégé, heir apparent, and then chief heretic; he was a friend of the student

movement who was once a Nazi with a war wound that left him hobbling and impotent (yet an inveterate womanizer); he was an opera singer, a bon vivant, and thrower of philosophical bombs. (Years later, his memoir, *Killing Time*, revealed these rumors to be essentially true.)

Feyerabend agreed to meet with me to explore possibilities for my senior thesis, exuding informal warmth from the get-go that dissolved my initial intimidation. His playful intelligence, iconoclastic insights, and meandering anecdotes mesmerized me. At the same time, he elicited my story with empathetic attentiveness, signaling that this would be a collaborative journey through epistemological mists to the shaky foundations of modern physics. Regarding the standard interpretation of quantum mechanics, his bemused incredulity was comforting and infectious. I could almost feel the gravitational pull of mainstream physics loosening.

The first session ended on just the right note. After hearing about my withering shut-up-and-calculate episode, he said, head shaking and eyes twinkling, "You are in excellent company." Schrödinger himself, along with other founders—Einstein, no less—had the same "naïve question." Einstein and the others had acknowledged quantum theory's astonishing success as a computational recipe accounting for experimental results. Still, they believed the standard interpretation to be inconsistent, incoherent, and incomplete. Not least, the "collapse of the wave function" is an exogenous rule tacked on to the framework, not part of the theory itself, and the source of the standard interpretation's nagging "measurement problem" in which consciousness assumes an inextricable role in all phenomena. Deep enigmas and paradoxes ensue, embodied by that strange cat of Schrödinger.

In the months to come, Feyerabend guided my research on the never resolved early debates about the meaning of the Schrödinger equation, on von Neumann's fallacious "proof" of the impossibility of alternative "hidden variable" theories, and on Bohm's discovery of just such a theory in the 1950s. Bohm's contribution, which replicated all the successes of quantum theory, could have opened a new front for theoretical elaboration and experimental design. But with Copenhagen hegemonic in "normal" physics, it gained little traction. Naturally, Feyerabend's epistemological anarchism drew him to Bohmian physics—what richness might lie along all the paths not taken?

I treasured my weekly discussions with Feyerabend as my thesis on all these heady questions took shape, was submitted, and accepted by my dubious physics advisor. The last time I saw Feyerabend, I was engaged in a heated discussion with a fellow student about Feyerabend's "epistemological anarchism." As we walked under Sather Gate, my friend bellowed, "Feyerabend is full

of it!" (in more colorful language). Just at that moment, the man himself appeared before us, paused, looked at me with a satisfied smile, and hobbled on his merry way.

I went on to Columbia University, where I shut-up-and-calculated my way to a doctorate in theoretical physics. In parallel, I discreetly worked on alternative versions of quantum mechanics, eventually publishing a testable version of hidden variable theory ("the stochastic electron"), which I continue to refine. The theory yields Schrödinger's Equation through a minimal tweak of classical physics, all within a realist picture that, contra my condescending old professor, describes the electron when no one is looking. Soon after, leaving "normal physics" behind, I began offering courses in the history and philosophy of science, and became chair of an interdisciplinary undergraduate program.

I occasionally corresponded with the ever supportive and provocative Feyerabend until 1976, when I left academia to found the Tellus Institute. That burgeoning organization went on to conduct thousands of projects around the world, all in the service of a just and ecological social transition, and continues to develop the scientific and political bases for a "great transition." For this, I remain grateful to the radical spirit who long ago sabotaged normalcy and inspired reinvention.

Brief Encounters

The King's Forbearance

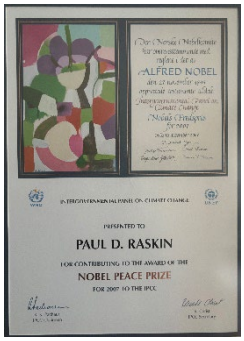
The 2002 publication of *Great Transition: The Promise and Lure of the Times Ahead* made a bit of an international splash. Invitations to present the essay's perspective on the global problématique began arriving and never stopped. The most notable of my lectures was the very first one. The Swedish Government was to host a major international conference, "Stockholm Thirty Years On," on the occasion of the thirtieth anniversary of the seminal 1972 UN Conference on the Human Environment.

I had the honor of delivering the keynote address at the opening session to be held at the majestic Old Parliament Building in Stockholm. I was given precisely twenty minutes for my presentation, which would begin at 11:40 am sharp. At the strike of noon, King Carl XVI Gustaf would rise from his front row seat, turn, and leave the building. So I honed my talk to exactly twenty minutes, created an animated PowerPoint show to move things along, bought a laptop, and headed to Stockholm.

As I stood at the podium, a technician connected my new computer to a huge overhead screen. At exactly 11:40 am, it displayed the horrifying message: “Did you forget your password?” The king and assembled dignitaries roared with laughter. After a few panicky moments and false starts, I was able to fire up the presentation, but precious minutes were lost. It was 12:05 pm before I reached my final slide: Which world do we want? Fortunately, the King kindly waited me out and then rose to applaud, before ceremoniously walking down the central aisle as all rose. Phew!

My Nobel

My youthful dream was to win a Nobel Prize in theoretical physics, but I’m starting to wonder if it’s going to happen. I may have to make do with my small piece of a Nobel Peace Prize awarded for my work as a lead author for the Intergovernmental Panel on Climate Change (IPCC). The IPCC is an international body of scientists charged with periodically updating decision-makers on what’s known about climate change: the anthropogenic transformation of the climate system, the impacts on people and ecologies, and, my area, greenhouse gas emissions and mitigation options.



In 2007, the IPCC and Al Gore shared the Nobel Peace Prize "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change." Along with hundreds of IPCC colleagues, I was named an individual recipient. I’m not the laureate I had in mind, but the award adorns my study wall nicely, a reminder of the important collective work that won us the prize.

Number One Quark

Murray Gell-Mann earned his Nobel Prize in theoretical physics fair and square. Although he was best known for his pathbreaking discovery of quarks, several other of his contributions to elementary particle theory would have warranted the prize. Back when I was an aspiring physicist, Gell-Mann was already a superstar. I heard him lecture only once, when I was a graduate student at Columbia University. His performance lived up to his reputation for brilliance and erudition, but also for pomposity and arrogance. He oozed “I’m the smartest guy in the room.”

Thirty years later, I got to work with him in a very different context. In the mid-1990s, Tellus Institute and the Santa Fe Institute (which Gell-Mann cofounded) collaborated with World Resources

Institute on a major undertaking called The 2050 Project. The project, mismanaged by WRI, fell well short of its grandiose ambition to create a virtual spaceship that users could steer into the future. But the lasting compensation for me was establishing a personal relationship with the renowned Murray Gell-Mann.

As a conversationalist, Murray was a sizzling force field of ideas, anxiously displaying his copious intellect, acuity, and wit. To be fair, he listened keenly when he had something to learn from me, such as how to think holistically about the global future, the theme of our collaboration. But Murray the Arrogant always lurked. When I asked him to inscribe my copy of his *The Quark and the Jaguar*, he eagerly signed it "the top quark." Lest there be any doubt.

The Mother of Improv

Viola Spolin is a household name in households where aficionados of theatrical and comedic arts reside. Known as the Mother of Improvisational Theater, Viola developed a highly influential set of techniques and exercises, called Theater Games, designed to unleash a student's capacity for spontaneous creativity and self-expression. Codified in her *Improvisation for the Theater*, the approach had a far-reaching influence on the doing and teaching of comedy and acting. Without Viola, no Second City in Chicago, no Committee in San Francisco, no Mike Nichols, Elaine May, and Shelly Berman, and no SNL.

Countless of her students went on to illustrious careers in theater, comedy, and film. Then there was me. For several summers, I was a young attendee of The Young Actors Company, an acting school and repertory theater she founded in 1948. Nestled in the Hollywood Hills, the place was in equal measures intoxicating—the grease paint, flamboyant personalities, high drama—and intimidating. In my first class, glamorous Viola swept into the room, exhorting us to "be a tree"; I became the Petrified Forest.

My older sister blossomed as a summer repertory star, while I was given a role banging a large gong with a mallet in a production of *The Emperor Has No Clothes*. Although not my brightest moment, I'm grateful for my time in Viola's world for two reasons. First, my exposure to the theatrical arts reinforced my interest in the theoretical arts. Second, when many years later I served as an expert witness in regulatory hearings, I played the courtroom drama as an improv exercise. Having learned from the best, I played it well.

Musical Escapades and Crimes

I Dreamed I Saw Joe Hill

On a July morning in the early 1950s, we Raskins boarded a train at LA's Union Station bound for Taos, New Mexico, where we would spend a week at San Cristobal Valley Ranch, a left-wing family camp. The program at the camp was packed with socially significant educational and recreational activities. I wasn't privy to the hot political debates among the parents, but I remember vividly the hot slime between my toes from squishing mud into adobe bricks with which we kids, supervised by artisans from a local Pueblo tribe, built a stout hut.

For all the daytime fun, the nights were marred by a grave injustice that, in the opinion of us aggrieved children, violated the camp's progressive ethos. After dinner and the evening square-dance, the program became adults-only, so we second-class citizens were banished to our dormitory. All week, we grumbled and protested to no avail. Then, on the eve of our departure for home, I resolved to vote with my feet. Creeping pajama-clad from the dorm to the big lodge, I peered through a side window to espy the grownups seated around a man tuning his guitar.

By some preternatural instinct, my mother sensing my presence, turned to stare scoldingly at me. But when I mouthed "please," her expression miraculously melted, and she motioned for me to come sit on her lap. I scurried across the smoke-filled hall and nestled in as Earl Robinson, the fellow with the guitar, began to sing his poignant song about Joe Hill, the old Wobbly poet, rebel, and martyr. I was transfixed and transported.

To this day, that song evokes the joyous night I rebelled against the children's curfew, and surrounded by love, heard tell of the man who never died. Hearing it also brings a wave of sadness for all the bygone people and their lost dreams. Then I remember Joe's plea before his execution: "Don't mourn, organize!"

Americana Summer

I spent the summer of 1962 meandering the American South in search of the roots of traditional music. My friend Ken Frankel and I stuffed banjos, guitars, cots, and some clothes into his white Chevy Impala and headed east from Los Angeles. A fellow physics major at Berkeley, Ken was a student of old-time music and a multi-instrumentalist then performing with Richard Greene, who became a renowned bluegrass and rock fiddler, and later with Jerry Garcia, who became Jerry Garcia.

We embarked on our pilgrimage without a clear plan or itinerary, only the vague aim of seeking out an aging generation of authentic rural musicians before they—and their music—passed from the scene. Amazingly, we succeeded. We found many of these old-timers; some we knew of from obscure recordings and some we discovered along the way. We devised an effective strategy for finding them: pulling into some likely town, parking the garish Impala discreetly out of sight, and finding a conspicuous spot where we'd belt out songs with Ken on banjo and me on guitar, or vice versa.

Passers-by would stop to listen, and, often as not, one would be a fellow picker or knew of one we just had to meet. Many strangers opened their doors and hearts to two young vagabonds from California, with convivial hours of talking and jamming often ensuing. My memories of many of these encounters have faded, but a few remain engraved sharply in my mind.

In Asheville, North Carolina, a rich vein of Appalachian music, we spent some time with Bascom Lamar Lunsford, an influential musician who had been recorded in the 1920s, a crusty lawyer, and a sophisticated folklorist. Bascom suggested we look up Big Red Parham, directing us to a farm a few miles down the road. Red's kindly wife answered our knock, saying Red was out back. We drove the Impala across a muddy field to where we found Red, who hesitatingly hopped down from his tractor. When we explained ourselves, he warmed up and asked to borrow a guitar. Then he stuck a harmonica in his mouth the long way and started singing "I thought I had met pretty girls in my day." Somehow, while picking the guitar and blowing a hands-free harmonica solo, he began to clog dance!

Next, we searched for Obray Ramsey, another musician suggested by Lunsford, but couldn't find his place. So, we stopped to ask directions from a fellow on the side of the road shooting groundhogs; maybe he knew Obray. "Obray Ramsey?" He said, "Why do you want to see that son-of-a-bitch?" Reluctantly, he took us to Obray's house, where he walked right in like he owned the place, which he did because he *was* the gifted and witty Obray Ramsey! A highlight for us was learning Obray's haunting "Cold Rain and Snow." Back in the Bay Area, Ken taught the song to Jerry Garcia, who later included it on the first Grateful Dead album.

In Independence, Virginia, where we headed next, an area that once had been the source of a few early recordings, we discovered that the old-time music persisted. One memorable day, we wended our way to the ramshackle house of Wade Ward, a picker we'd been told about. We arrived unannounced, yet Wade and his gracious

wife welcomed us, even offered us a meal, and let us set up our cots on the front porch. Wade was a terrific banjoist and conversationalist, so our jam sessions and bull sessions were both superb. In the morning, after a big southern breakfast, courtesy of Mrs. Ward, and more picking, it was time to hit the road. As we were leaving, elated and proud to have discovered Wade, he asked us to sign his guest book. What? Curious about who else had visited, I flipped back the pages to find entries for Alan Lomax (1937), as well as Woody Guthrie and Pete Seeger (1939). Better late than never.

Wandering through southern Virginia, we happened by the Airport Drive-in Cinema, where the marquee announced that the Stanley Brothers, a top-shelf bluegrass band, would be performing that very evening! Not to be missed. Although the concert was still hours off, we decided to pull in to get a good spot and a bite to eat. But both the ticket booth and snack kiosk were still shuttered. So, we rolled across the deserted parking area right up to the outdoor stage, pulled out our instruments, and sat on the hood of the Impala picking our hearts out as cars gradually filed in. At concert time, we realized that we had entered without a ticket, a happy thought for two wayfarers traveling on short money. Besides, no one would ever know—or would they? The band walked onto the stage to car horns honking as Carter Stanley stepped to the mic. “Before we start,” he said, gesturing our way, “we want to welcome these two fine young musicians from California. Boys, we’d like you to be our guests tonight.”

The Hazard, Kentucky, area was a moveable feast of music making, including a notable day with Roscoe Holcomb. Roscoe had been recorded a few years earlier by John Cohen of the New Lost City Ramblers, who produced an album on the Folkways label of the “high, lonesome sound.” Indeed, the sound was intensely high and lonesome as we sat knee-to-knee with Roscoe on his rickety front porch. On a sour note, he grumbled about getting shorted on album royalties, a complaint I asked John Cohen about decades later at a party at the Greenwich Village loft of my wife Pamela’s cousin, Suze Rotolo. John shook his head and said, “I lost my shirt on that project,” adding that he and Roscoe remained close friends.

We heard tell of one Badeye Bolling, a lifelong miner and banjo player. Finding his place was an adventure through labyrinthine back roads eventually leading to a muddy lane that terminated in a verdant hollow. Grabbing our instruments, we wobbled across the suspension bridge swaying over a rushing stream, then stumbled down a rocky path to Badeye’s cabin. A squat man came to the door and looked at me with one eye and Ken with the other—Badeye had earned his name honestly. Despite missing a couple of fingers, Badeye frailed his banjo with aplomb as we played into the evening. If by

chance, Badeye Bolling had been discovered by an Alan Lomax or a John Cohen, he, too, would have entered the old-time music pantheon.

When we reached Washington, DC, the time had come to turn back toward the west and home. But before leaving DC, we busked for gas money at the Washington Monument. At first the listeners were sparse and so was the change. Then out of nowhere, a huge crowd, coming from a Shakespeare-in-the-park performance, surged toward us. The audience swelled and our guitar cases filled with greenbacks, but the Capitol Police unceremoniously halted the concert, dispersed the crowd, and sent us packing. Happily, though, we were able to pocket our lucre and avoid detention for the disreputable crime of playing folk music, a charge I faced a few years later in Italy (more on that soon).

We spent the night in a bug-infested Salvation Army flophouse, enduring the morning sermon over a bowl of cement-like grits. More than ready to bid DC adieu, Ken headed for Nashville and the Grand Ole Opry, and I hitchhiked to my sister's place in St. Louis, where Ken and I rendezvoused in a few days. From there, we drove straight through to LA, two lunatics switching drivers at 65 mph, stopping only to refuel. We logged 1,800 miles in 30 hours, tired yet elated as our wondrous summer receded in the rearview mirror.

Arrest on the Spanish Steps and an Averted Kidnapping

I spent the summer of 1964 traipsing all over Europe lugging a heavy rucksack and heavier guitar in its hard-shell case (today I strain to carry it a few blocks). But the Gibson, as it often had before, served as a passport to new comrades and adventures. Off the plane, I headed for the Troubadour in London, where I opened for Bert Jansch. Many music scenes were to follow as I trekked across the continent.

Italy was the setting for the wildest experience. The tale begins in a Paris youth hostel, where I came across one Mark Birnbaum, a mellow pothead from the University of Chicago and fellow guitar shlepper. Mark was a solid picker and strong singer whose repertoire of blues and rags overlapped with mine. We quickly bonded and set off hitching and busking our way across France and Spain. Then, we doubled back through the Italian Riviera and south to the city where all roads lead.

Once in Rome, we befriended two American girls from Antioch College, and headed to the Spanish Steps to make music and enough money, we hoped, to finance dinner for four. With the first chords, a crowd gathered around the fountain at the base of the Steps and soon swelled to fill the entire piazza. Linda Black, one of the Antioch students, circulated among the audience holding out my red cap,

which in no time overflowed with lira. Repeatedly, she emptied the cap into my guitar case and went back for more. Was a two-star Michelin restaurant in reach?

Then our luck turned, and our fortune vanished. We were singing “I got the blues for my baby down by the San Francisco Bay” with Linda Black working the crowd when the Carabinieri appeared. They weren’t there to listen or contribute. Barking in Italian, they scattered the spectators, confiscated our take, and brusquely marched us off to a nearby jail.

The four of us spent the night behind bars in adjacent men’s and women’s holding pens. Outside our cells, an *agente di polizia* sat at a table in full regalia pounding out terms of indictment on an archaic typewriter. At dawn, we were presented with the document describing our offences—written in Italian, which none of us could read. Only one unforgettable sentence was decipherable: “Black Linda was arrested for soliciting money with a red cap on the Spanish Steps.” Nevertheless, we signed at the bottom confessing to our crimes, whatever they were, anxious to be sent on our way admonished and impoverished.

But it wasn’t that simple. One of the jailers explained in very broken English that, unbeknownst to the tourists of the day, Italy had a visa requirement, which the authorities only actuated to expel undesirables, such as us. We had 48 hours to leave the country, or we would find ourselves in really hot water (“problema profondo”). The little Caesar did not specify the consequences and we didn’t want to find out, so it was time to bid Italy arrivederci. Little did we know that events were about to get even weirder.

Without delay, Linda Black and I gathered our gear and hit the road with the others to follow. Our plan was to hitchhike south toward Naples, and then take the highway east to Brindisi, where we would catch the ferry to Greece. We took a bus to the outskirts of Rome, found the A1 to Naples, and stuck our thumbs out as a rattly convoy of canvas-covered trucks approached. One pulled over, the door flew open, and the two men inside ushered us into the space behind their seats.

As the truck rumbled south, the animated Italians in the front bombarded us with questions about each of us and our relationship. Thinking I would avoid offending local mores, I told them that Linda and I were cousins—a big mistake. They proceeded to ply me with a bottle of red wine as they spoke excitedly of their beautiful home in Catania, Sicily, the place where they were headed. We must come with them, they urged, so Linda could meet their handsome, eligible cousin. If the two of them hit it off, I, as Linda’s cousin, could give the bride away. “Perfecto!”

Through a wine-soaked stupor, I registered in horror that the truck had passed the cutoff to Brindisi. We were speeding toward Catania. Kidnapped! Our elated captors ignored our increasingly agitated pleas to disembark; then fortune smiled on us. Somewhere south of Naples, the truck directly ahead blew a tire. Our driver pulled over behind it, and his partner opened the passenger-side door. At once, I grabbed the guitar and backpacks and jumped out with Linda right behind. Our captor grabbed her arm, and I pulled the other one in a tug of war that I won with the critical help of Linda's well-placed kick. Once free, we ran up the highway leaving the evil convoy in the dust and a lonely Sicilian cousin to ponder what could have been. Ciao, Italy.

Mance and Me

After leaving for college and throughout graduate school, I stayed connected to the vibrant LA folk music scene during family visits. My old high school picking buddies kept me plugged into the widening circle of musicians drawn to the West Coast capital of the folk revival. At the epicenter was the Ash Grove, a club where I often hung out to hear the country blues masters who cycled through. Occasionally, the owner, Ed Pearl, aware that I had time and a car, enlisted me to shepherd visiting performers around town.

The highlight for me was the weekend I served as driver for Mance Lipscomb, the great Texas blues guitarist and songster. On our long hauls across the sprawling city, this warm and wise man filled the time with endless stories, philosophical reflections, and autobiographical anecdotes. Mance spoke of his life as a tenant farmer, who on Saturday nights played his music for audiences in and around his hometown of Navasoto. And how everything changed in 1960, when urban collectors in search of country blues artists discovered him at age 65 and brought him north to record and perform.

Crisscrossing the freeways of La La Land, I could see that Mance took his new life of far-flung travel and adoring crowds in stride. He was the same whatever the venue—riding in the car, a small house concert, a noisy club, a big folk festival. His personality, like his music, exuded a captivating authenticity that entranced those fortunate enough to hear him, none more than his 20-year-old chauffeur.

LA Party with a Surprise Guest

On a Saturday night in 1963, I threw a music party at my parents' Studio City apartment. An extraordinary group of up-and-coming musicians and singers showed up. The virtuoso guitarists included David Cohen, a respected studio musician, and the brilliant Steve Mann, who soon after partnered with a young blues singer from Texas named Janis Joplin—until mental illness brought him crashing down. Roger McGuinn, then known as Jim and later of the Byrds, played smooth licks on his 12-string guitar as he sang traditional songs with rhythmic power (folk rock was germinating in that room.)

When the doorbell rang, the jam was in full swing. At the front door stood an older woman (perhaps 40) and a teenage kid with a big guitar. She asked, "Is it okay if Ry joins you?" I didn't know young Ry Cooder, but welcomed him in. The others made way as he pulled out his Martin and, picking with eye-popping wizardry, nearly stole the show. His mom returned all too early to fetch the budding master.

My Guitar Guru

Perry Lederman was a guitar genius and the pivotal influence in my musical development. I met Perry in Berkeley when I was 20 and spent the next year and a half hanging out and studying with him. I thanked my lucky stars for the good fortune of crossing his path, and still do.

Before Perry, my primary instrument had been the banjo. As a teenager, I also learned basic guitar and a raft of songs from my wonderful Uncle Walter, an infectiously enthusiastic music-maker and uncommonly affable human being. I then sought out big David Cohen, the studio musician who later came to my music party. He introduced me to enough technique to launch a lifelong hobby of breaking down recorded guitar pieces.

Then off to Berkeley, where I fell in with the burgeoning folk set. At 38, Rolf Cahn, who had recorded several albums for Folkways (blues with a German accent!), was the gray eminence. Rolf and Debbie Green opened a folk club called The Cabale on San Pablo Avenue. (Debbie had taught Joan Baez guitar and much of her repertoire back in their Boston University days.) The club featured a stellar lineup of recently rediscovered artists like Reverend Gary Davis, Mississippi John Hurt, and Fred McDowell, along with up-and-coming urban folkies.

That's where I first heard Perry Lederman, who, paired with singer Al Young, became a Cabale regular. Perry was a charismatic guitar player, a true artist who endlessly invented riffs both lyrical and

muscular, yet always firmly rooted in a traditional foundation. He'd wrap his small body around his antique Martin, forming one being with laser-eyes and flying fingers. His left-hand vibrato, inspired by his own teacher, Josh White, was otherworldly. All who beheld these intoxicating performances understood we were witnessing a fleeting, transcendent moment in the art of the guitar. For my part, I stowed my banjo permanently in its case, befriended Perry, and started working long and hard to play like him. Still am.

Sadly, Perry's recorded legacy from his Sixties heyday consists only of a couple of poor-quality cuts taped at a live performance. How did this musician's musician fall through the cracks of public awareness? Part of the answer lies with Perry's hubris in refusing to play the careerist game. The story goes that when Bob Dylan asked Perry to back him up on Dylan's breakout *Freewheelin*' album, Perry snapped, "I don't have time for this shit. I'm going to be famous." More to the point, Perry's reckless life, marred by a broken marriage, drugs, and petty hustles, cost him the wider recognition he deserved.

When I headed to New York City for graduate school in 1964, I feared that Perry was doomed to drift further down the skids, and that I would never see him again. But the story has a poignant epilogue. Thirty years later, Elijah Wald, a writer and musician, told me about discovering an amazing guitar player by the name of Perry Lederman. Perry had survived! A couple of years earlier, Elijah's brother had stumbled across a down-and-out busker playing beautifully in a doorway on Bleecker Street in Greenwich Village. Elijah's parents, George Wald, a Nobel Prize winner in chemistry, and Ruth Hubbard, a Harvard professor of biology, took Perry under their wing. To help him get back on his feet, they brought him to stay in their summer house in Woods Hole on Cape Cod. There, he met a lovely potter, got married, had a daughter, and started performing again in clubs around The Cape.

Perry and I had an emotional reunion at the Walds' Cambridge house in 1994. He remembered well our old times in Berkeley, but I barely recognized the gaunt figure before me, who, I was soon to learn, was suffering from terminal lung cancer. Still, his guitar playing, although lacking the tone and intensity I recalled, remained great by any standards. Over the next several months, Elijah and I repeatedly drove from Cambridge to the Cape to spend time and play music with Perry. With my help, Elijah produced a CD of his music drawn from contemporary live tapes and tunes we recorded in his living room. Perry was an instrumentalist, never a vocalist, but on the night before he died, we captured him singing an old spiritual. "This World Is Not My Home" became the title track of the CD.

Earth Day Soundtrack

Do you know where you were on the first Earth Day? I spent that sunny spring day in 1970 in a dark midtown studio recording the soundtrack for an antiwar movie called *Cowards*. Danny Kalb of Blues Project fame was originally slated to do it, but when he dropped out, my singer-songwriter friend Steve Lerner was offered the job. We quickly assembled a band with Steve on vocals and rhythm guitar, me on my Fender Telecaster, and other friends on drums, bass, and back-up vocal. It took all day and many takes in that cave festooned with audio equipment, but our band, christened the Merry-Go-Round, finally grooved.

Later that year, *Cowards* screened at the Cannes Film Festival before opening at the Little Carnegie Theater in Manhattan. The opportunistic director and screenwriter Simon Nuchtern, hoping to capitalize on the prevailing youthful antiwar sentiment, fused a timely theme (draft evasion) with a timeless one (sex). The film's opening run was deservedly short, and it didn't fare much better when rereleased two years later as *Love-In '72*. The reviews ranged from "flat footed" (*New York Times*) to "best forgotten" (*TV Guide*) despite a cameo appearance by monologist Spalding Gray. The critics neglected to praise the fabulous soundtrack.

Becoming a Sixties Student Radical

How is a red diaper baby to rebel? It's complicated. I picked up a penchant for questioning the establishment from my leftist parents, who didn't realize that in my young eyes, *they* were the establishment. To emulate them was to defy them, a paradox I resolved by adopting the annoying apostasy of political indifference. As a rebel without a cause, I happily forewent boring study groups and tiring protest marches, except for marching sleepy-eyed from my bedroom into our smoke-filled living room on meeting nights to enjoin the assembled comrades to pipe down.

In high school, as intimations of maturity gradually loosened the grip of juvenile alienation, my apathetic phase began to wane. It dawned on me that a cause could be worthwhile despite my parents' commitment to it, and that Marx could have something consequential to say even if the old folks admired the bearded one. I was beginning a giddy thrill ride to an adult identity, my philosophical compass jiggling and reorienting. Impelled by nature and nurture, activism would be a key dimension of my life, after all.

Marching with Linus

In 1960, the moment arrived to launch my activist career on my own terms. The issue of disarmament loomed largest in those Cold War times, when nightmares of nuclear Armageddon invaded my nights and haunted my days. While the geopolitical insanity of "mutually assured destruction" was reason enough to act, it was also disquieting that the bomb was the child of physics, the field I aspired to, and that my future professors and colleagues were the midwives of Hiroshima and Nagasaki. The potent combination of existential threat and moral unease forged a teenage peacenik.

One Saturday afternoon, I drove solo over the Hollywood Hills—a hair-raising ride in my nearly brakeless 1949 Dodge—to participate in a "ban the bomb" demonstration in downtown LA. A crowd of several hundred gathered in MacArthur Park to hear warm-up speeches before marching down Wilshire Boulevard to Pershing Square. At first, I felt awkward chanting with the boisterous crowd, which seemed decidedly uncool. Then I observed at the head of the procession a dignified man with unkempt white hair in the wind and an angular frame adorned in suit and flying tie.

Linus Pauling had won the Nobel Prize in chemistry, and two years later would win the Nobel Peace Prize. (He might have earned a third Nobel had Watson and Crick not edged him out in the race to decode DNA.) To a budding physicist and activist, watching this eminent man of science, proud and unabashed, acting on his convictions, served as enduring affirmation and inspiration.

Big Splash at Berkeley

UC Berkeley was the only entry on my short-list of colleges, although I also applied to Caltech, then the citadel of theoretical physics, as a backup. I was accepted to both places, but nerdy Caltech in smoggy Pasadena was no match for the exhilarating campus on the glorious San Francisco Bay. Berkeley was the ideal place to pursue my professional ambitions and nonscientific enthusiasms: folk music, politics, and romance.

So, on a beautiful September day in 1960, I headed for the Promised Land. I stuffed my gear into the MGA sports car bought from Uncle Walter with my ill-gotten poker winnings, sped up Route 99, turned west to the East Bay, and swung north on the Nimitz to the Berkeley exit. I was bursting with excitement as I drove up University Avenue toward the towering Campanile drawing me to intellectual adventure. I pulled into Ehrman Hall's parking lot off Dwight Way, grabbed my duffle bag and banjo, took the elevator to my assigned room on the eighth floor, stepped into the hall, and got whacked by a water balloon. So much for the life of the mind!

Keeping the Faith

On the very evening of the water bombing, my collegiate illusions suffered a second deflating blow. As several hundred hungry students in my dorm complex filed into the huge dining hall, our dour housemother, Mrs. Broomfield, rose from her commanding perch at the front table. She rang a silver bell for silence, then, after platitudinous greetings, rattled off endless admonitory announcements concerning house rules and expected behaviors. At last, she rang the bell again, giving us permission to sit down and dig in.

Condescending Mrs. Broomfield was a creature from the era when *in loco parentis* reigned on college campuses, but the nascent youth culture was about to crater that infantilizing doctrine. Memo from early Dylan to all the Broomfields: "Your old road is rapidly fading. Get out of the new one if you can't lend a hand, for the times they are a changing." Right off the bat, Michael Tigar, the head of Slate, a progressive campus organization, set the tone when he burst into the dining hall, literally stood on a soapbox, and exhorted us to "speak up and speak out."

Formal Sunday dinners, with a dress code requiring coats and ties for the boys and dresses for the girls, were especially offensive. Attired in her prim Sunday best, Mrs. Broomfield delivered orations even more long-winded and patronizing than usual. At the end of her remarks, rather than ringing her bell to signal chow time, she invited the House Chaplain to lead us in saying grace. Really? To a Jewish

atheist like me, the imposition of a Christian ritual was oppressive and intolerable. Prayer in a public university? What ever happened to the separation of church and state?

In another time and place, I might have given this provocation a pass, but the Berkeley ethos of 1960, and the aforementioned Mike Tigar, called on me to speak up and out. But how? Declamatory protestation was too earnest for my style, so I hatched a subversive plan: I would lampoon their religious grace by giving a sacrilegious grace of my own. Fortunately, my roommate John Gibson, a budding heretic from a religious Fresno family, happened to know a blasphemous ditty suitable for my purposes.

The following Sunday, as the hungry multitudes, clad in their finery, assembled for dinner, I approached the Chaplain. Piously, I asked, "Would it be all right if I gave the grace today?" After a slight double-take, he beamed reverently, "Of course it would. How wonderful!" So, when Mrs. Broomfield signaled with her bell that it was time for the blessing, the Chaplain stood to announce, "I am delighted to tell you, today a student will lead us in prayer."

I rose, gazed across the sea of fellow students, and bowed my head. "Dear God," I began, then paused as a jovial murmur swept the cavernous room. (My friends later reported that it sounded like I was sending a letter to God). My homily continued: "Pass the bread, pass the meat, for Christ's sake, let's eat." A beat of stunned silence, then total bedlam erupted as 600 students clapped, stomped, and cheered.

That evening, I basked in the limelight, but the next morning, a note summoned me to the Undergraduate Dean's office. After a blustery lecture about "respect," "maturity," and "possible suspension," the red-faced Dean sent me on my way, chastised yet unbowed. The denouement of this episode was deeply satisfying. I did not get suspended, the Sunday grace did—and it was never reinstated.

Guns on Campus

Compulsory ROTC, another appalling vestige from the fading era, was a burning issue for campus activists and unwilling conscripts; I was both. As a land-grant college, UC-Berkeley required all entering male students to endure two years of spit-polishing and degradation. Every Wednesday morning, I donned my Air Force uniform and reported for duty in North Field, where "officers" (upperclassmen destined for military careers) force-marched us for an hour. Not a rebellious peacenik's cup of tea: I got straight As in my academic classes but was proudest of my D in ROTC.

Miraculously, I found a way out that, to boot, exacted revenge. Paul Guttman, a dormmate and ROTC officer, desperately wanted to play the banjo. He pleaded with me to give him lessons, but I wasn't interested—until he made me a sweet offer. If I taught him banjo, he would get me transferred from marching to a desk job. Deal! From then on, I reported to the ROTC office on Wednesday mornings, where I was tasked with typing up the promotion slips submitted by officers to reward their most gung-ho foot soldiers.

Soon I realized that I didn't need their slips—I could create my own promotions! Before long, my disheveled friends were calling out risible cadences for the dumbfounded troops. When the Board of Regents finally rescinded mandatory ROTC in 1962, they abolished a dissolute band of slackers, not the crack troops of yore. The topper came at the last "Officer's March," the annual June jamboree attended by outside military brass. As the grand procession began, rather than the traditional "The Stars and Stripes Forever," the loudspeaker boomed M-I-C-K-E-Y M-O-U-S-E.

Not Nice for Civil Rights

Compulsory prayer and mandatory ROTC were ludicrous indignities that invited the absurdist tactics recounted here. These shenanigans, as I saw it, were skirmishes in a larger resistance to the peddlers of false consciousness and chauvinistic jingoism. However, the struggle for civil rights, the political focus of my final years at Berkeley, demanded a no-nonsense strategy and a level of militancy proportionate to racist entrenchment.

Growing up learning about the life and times of Paul Robeson, the stellar man I was named after, made me acutely aware of our country's foundation in slavery and its legacy of racism. The 1960 sit-ins by Black students at a whites-only lunch counter in Greensboro, North Carolina, signaled that it was time to do something about it. The Jim Crow constabulary of Jackson, Mississippi, solidified my resolve in the summer of 1962 by roughly ejecting me from the "wrong side" of a segregated bus terminal.

Back in Berkeley, I joined the local chapter of the Congress of Racial Equality. CORE's strategy of challenging employment discrimination, a critical pillar of structural racism, made sense to me. At the time, the primary target was Lucky's Market, a small East Bay grocery chain that refused to sign a pledge to change its hiring practices to align the company's work force with community demography. We picketed and boycotted for months, but the company would not budge. Raising the stakes, we would enter a Lucky's branch dressed as customers and proceed to shuffle products between shelves or stuff them into shopping carts, then leave when the police arrived.

Some in the movement opposed these “shop-ins” on the grounds that they overstepped the boundaries of nonviolence. Our view was that relocating groceries, a crime against property, was justified in the fight against bigotry, a crime against a whole people. As songwriter Malvina Reynolds put it in “It Isn’t Nice,” a song inspired by the Lucky’s action, “if that is freedom’s price, we don’t mind.” The philosophical debate persisted, but on the ground, Lucky’s signed the pledge.

Columbia Rises

After a summer tramping around Europe, I reported to Columbia University in September 1964 to begin graduate school. The genteel ambience on the stately campus on the Upper West Side contrasted with rowdy Berkeley, where the Free Speech Movement was about to explode. Apparently, the memo announcing the end of student apathy had yet to arrive from the Coast. The decorous atmosphere dismayed the activist in me but jibed with my resolve to study more and march less.

In a few short months, the political quiescence on campus went up in smoke. The youth rebellion was a cultural wildfire that gained energy as it spread from hot spots in California and the Midwest. It hit Columbia at full force, transforming the sleepy campus into a New Left epicenter. Zelig-like, I found myself once again at the cutting edge of the Sixties zeitgeist. This time, I was a seasoned graduate student aligned with the “praxis axis” circle, pushing for patient organizing, while urging undergraduate hotheads in the “action faction” to dial it down. As history played out, both these tendencies seeded the mass revolt to come.

Two issues fueled the unrest: the university’s intention to construct a gym in neighboring Harlem and its association with war research. From its perch on Morningside Heights, Columbia, with bewildering arrogance, decided to build a gymnasium down the slope in the middle of Harlem’s Morningside Park. Predictably, community organizations and student civil rights groups mobilized to stop the project. On the second front, student researchers revealed that Columbia, as a partner of the Institute for Defense Analysis, maintained a formal connection to the Pentagon. Most provocatively, they reported that several physics professors (my professors!) were members of the IDA’s elite Jason Division, which was conducting advanced technical research in support of the US war effort in Southeast Asia.

The simultaneous battles to stop the new gym and end military research were local proxies for two great movements, civil rights and peace, then sweeping the country. To the student radicals who swelled the ranks of SDS, Columbia was doubly on the wrong side of history, but our demands to cancel gym construction and end war research fell on deaf ears. Imperious President Grayson Kirk's ham-fisted response to escalating protests was to expel several activists, thereby generating a third demand: reinstate expelled students.

The antediluvian Fifties and insurrectionary Sixties were on a collision course. The reckoning came on April 23, 1968. Hundreds of us marched down the hill into Morningside Park to tear down the chain link fence protecting the gym construction site. When a police contingent appeared and scuffles broke out, we headed back to Hamilton Hall, where we locked arms outside Dean Coleman's office. Inadvertently, we were holding him hostage. So began a week of multiple building occupations that culminated in a massive invasion by a large contingent of New York police officers, who cleared the buildings, arrested hundreds of protesters, and inflicted countless injuries. The "police riot" radicalized previously apathetic students and faculty, who joined in a month-long strike that shut down the university.

Meanwhile, pressure was building on the Jason physicists to cease their war research. That work focused on the so-called "electronic battlefield," a sophisticated system of surveillance technology for "interdicting" North Vietnamese troops, that is, eliminating them with coordinated pinpoint airstrikes. Fully deployed, the electronic battlefield might have decisively tilted the war in favor of the US puppet regime in Saigon. In Pupin Hall, the physics building, the debate raged. Jason professors defended their work as a humane way to save lives by rapidly ending the war. We graduate students parried, no doubt histrionically, that the research marked them as willing soldiers in an unjust conflict and complicit in a crime against humanity—the quick and ethical way to end the war was to bring the troops home.

During the Columbia strike, some professors, convinced that the end of the liberal university was at hand, became overwrought, a few unhinged. One day, I.I. Rabbi, esteemed physicist and Nobel Prize winner, political liberal, and adviser to presidents, summoned me to his huge office on the eighth floor of Pupin. He greeted me with a red-faced diatribe against "you Jacobins" destroying this citadel of learning and precious beacon of civilization. Climbing on a chair (Rabbi was quite short), he looked out a window at all of Harlem lamenting, "These people don't appreciate what a precious jewel this university is in the crown of their city." As I helped him down, I tried to calm him with "Fear not, Professor Rabbi,

Columbia will persist, and be all the better for confronting its bugaboos." But the great man was inconsolable.

Indeed, in a matter of months, the gym was relocated to an on-campus site, Columbia severed its ties to IDA, and Grayson Kirk got the boot. Surely, I.I. Rabbi was pleased to see the university, a bit humbled and sensitized, revert to its elite mission, twentieth century style. At the 40th anniversary of the revolt in 2008, Lee C. Bollinger, the epitome of a modern, progressive university president, addressed the veterans of '68 as one of us—"we won!" Well, yes and no. The Columbia revolt was a milestone of Sixties radicalism, but soon the student movement prematurely flamed out when its leaders, high on revolutionary illusions, joined the reckless spasm known as the Weathermen.

Restless Farewell

My stint as a student radical was coterminous with the Sixties, a decade so saturated with social transformation, tragedy, and triumph that it seemed longer than ten years, more like a historical epoch. Much like the decade itself, my journey through the Sixties began in naïve hope, veered wildly from highs to lows, and ended in thwarted expectations. I certainly would never be the same, nor would the world.

I count myself doubly fortunate to have come of age in such a passionate time and to have lived it in places highly attuned to the shifting weltanschauung. But as the Seventies loomed, I had the welfare of a young family to consider and a grown-up career to pursue. I was eager for a new leg of my journey, knowing I would carry the spirit of the Sixties to radical adventures sure to come.

Maverick Academic

The Big Game

For a long time, I had no good answer to the annoying question well-meaning adults like to ask kids: what do you want to be when you grow up? Surely these inquisitors would not deem my childhood passions—puzzle-solving and game-playing—a valid career ambition. Then I read a popular account of Albert Einstein's adventures decoding the mysteries of the universe. Although the ideas were obscure, the message was clear: Nature is the best puzzle! Science is the best game! I had my answer: I wanted to be a theoretical physicist.

Mr. Harold Corbin, physics teacher extraordinaire, and himself a force of nature, showed me how to play the game of science. A world-class fencer, Mr. Corbin began his tenure at North Hollywood High School after representing the US at the 1932 Olympics. Short and blunt, like the épée he wielded, he was devoted resolutely to conveying the beauty and power of physics to his benighted students. His uncompromising rigor and demanding expectations made him a polarizing figure on campus. Science-bound students venerated him, but others resented his difficult courses and stringent grading curves.

Mr. Corbin's stern demeanor sported a bushy mustache that would twitch excitedly when he lectured on, say, the everyday consequences of a law of physics. To this day, I picture it jiggling as I wipe my car windshield horizontally to diffract light from oncoming headlights into clear vertical lines. Years later, when an elderly Mr. Corbin appeared at a class reunion, I took the opportunity to thank him for motivating me to become a physicist. A tear rolled down his craggy face as he slowly rose to give me a feeble embrace, his gray mustache atwitch.

Skeletons on the Path

Inspired by Einstein and galvanized by Corbin, I was a highly motivated aspiring physicist when I arrived at Berkeley in 1960. I sailed through four years of course work with a near perfect GPA; the main blemish—and badge of honor—was that well-earned D in ROTC. I carried a second major in philosophy, which led to my fateful encounter with the charismatic Paul Feyerabend, my undergraduate mentor. The iconoclastic philosopher, by opening my eyes to the profound flaws at the foundations of quantum mechanics, started me on a path of research that diverged from orthodox physics.

I soared in that special time in Berkeley when "to be young was very heaven," but in a heartbeat my four years were winding down. Graduate school seemed the preordained next step, although I did harbor the fantasy of becoming a full-time folk guitarist. Fortunately, General Lewis Hershey, Director of

the Selective Service System, squashed that pipe dream. The good general's life-or-death prod—"go to school or go to Vietnam"—decisively spared me a career as a struggling folksinger.

Choosing a graduate school was a no-brainer since I was hell-bent on moving to New York City. I applied to Columbia University, which boasted the strongest physics department in Manhattan, got accepted, and won a National Science Foundation fellowship. My ill-fated plan was to experience NYC for a few years, then settle permanently in my beloved Bay Area. Who knew that life's complexities would strand me on the East Coast for six decades and counting?

I was looking forward to my NYC adventure when a kindly Berkeley professor gave me second thoughts. Prof. Frederick Reif, who taught my statistical mechanics and thermodynamics courses, was a lucid lecturer, prominent physicist, and warm human being. After hearing about my plans for graduate school, he took me aside for a confidential chat. He felt an ethical responsibility, he explained, to alert me to Columbia's woeful reputation for neglecting its graduate students. He left me with a chilling indictment of the place: "The corpses of many promising young physicists lie scattered along its trail."

Prof. Reif urged me to reconsider my backup schools, Harvard and Wisconsin. But the Big Apple exerted a powerful psychological pull, and how bad could it be at Columbia? As I would soon discover, worse than the prophetic professor feared. If aloof and inaccessible in the past, the Columbia physics faculty was AWOL during the student revolt of the late Sixties. It didn't help that the department became a primary target when Students for a Democratic Society revealed that several professors were conducting secret Vietnam War research for the Defense Department, as noted earlier.

In the thick of the mayhem, graduate students fell off the radar of embattled and distracted professors. The negligence was particularly severe for those of us studying theoretical physics. Physicists come in two flavors—theorist and experimentalist—with graduate students sorted into one or the other. Getting on the highly competitive theory track required acing onerous exams administered at the beginning of the second year. Desperate to do theory (and inept in the lab), I spent the summer of 1965 prepping, and made the cut.

The challenge then became finding an attentive, helpful thesis advisor. (Students on the experiment track, as valued lab workhorses, were better mentored.) Some discouraged classmates fell by the roadside, confirming Professor Reif's doleful warning. Eventually, I was assigned a blue-ribbon thesis committee comprised of Giancarlo Wick, T. D. Lee, and Robert Serber. These eminent theoreticians—Lee had a Nobel Prize, Serber was Oppenheimer's star student, and Wick was Fermi's—were eminently derelict in their duties.

In the spring of 1968, the time of the infamous Columbia student revolt, I had been at it four years with still no clear path to the doctorate. Lest I join my fallen comrades, I resolved to take matters into my own hands. That summer, Pamela and I decamped to Berkeley, where we rented the beautiful hillside house of philosopher-architect Christopher Alexander. I set up shop in the study with a panoramic view of San Francisco Bay and went to work.

Still adrenalized by the Columbia Strike, my brain was bubbling with speculative ideas on the dynamics of elementary particles. Che's observation—"the more I make revolution the more I make love"—seemed to apply to making theory, as well. For weeks, my theoretical conjectures either petered out or lost their pot-fueled luster by the light of day. Finally, I hit on a keeper: a novel way of explaining the patterns formed when a kaon, a kind of subatomic particle, collides with an atom's nucleus. I filled a stack of pages with equations, did the math, and teased out some new predictions. By summer's end, I had a draft dissertation. Back in New York, I submitted the manuscript to my astonished and skeptical committee. They quibbled and delayed, then accepted the dissertation unaltered. I got out alive!

Science and Society

With PhD in hand, a wife with a Master's in English, and a baby on the way, I entered the dismal job market of 1969. Tenure-track jobs elicited scores of applicants at backwater colleges and hundreds in New York City, to which I had restricted my search. The Sputnik generation, channeled into the scientific careers in the 1950s, were coming of age in a society reneging on its promises.

Fortunately, I landed a plum position in the physics department of City College of New York (CCNY). (Ironically, I also received an unsolicited offer from the University at Buffalo through a professor I met protesting war research at an annual meeting of the American Physical Society.) Known as the "Harvard of the proletariat," CCNY boasted a long list of illustrious graduates, including several Nobel Prize winners.

As a rookie professor, I taught introductory physics courses to throngs of students in large lecture halls. I honed these lectures-cum-performances, reading the room well enough to reap favorable student evaluations. On the research front, I resurrected my work on quantum foundations inspired by Feyerabend back in Berkeley, then lain dormant as I navigated my way out of orthodox Columbia. I was strongly committed to teaching and research, but also to child-rearing, music, anti-war action, and a community center on the Upper West Side. It was a rich, multidimensional life, but incompatible with excelling in theoretical physics, which required single-minded devotion. Colleagues lived and breathed physics while I demonstrated, jammed, and cared for my infant daughter.

To pile it on, “open admissions” came to CCNY in 1970. The policy of admitting any graduating high schooler was laudable in intent, but ill-conceived in design. Notably, the program lacked the resources needed to bring open admissions students up to speed in basic math and science skills. To help fill the gap, several physics colleagues and I volunteered to tutor underprepared freshmen. It was gratifying to see some tutees attain college-level proficiency, but for many others, it was a leap too far. College is late in the game for many students to overcome a lifetime of educational disadvantage and for society to compensate for deep structural inequality.

Spread thin, I was eager to streamline my activities. Ideally, I’d find a career path that blended my passions for science and social change. But in an academic landscape partitioned into distinct disciplines and siloed departments, was such interdisciplinarity even possible? Astonishingly, an opportunity suddenly materialized in my own back yard, and I seized it. Educational thought leaders had been promoting innovative curricula for bridging C. P. Snow’s “two cultures” of science and humanities, and my department was just the place for such pedagogic experimentation.

Among my colleagues was a coterie of aging radicals who had joined the CCNY faculty decades earlier to bring science to the working class. In their eyes, science and socialism were hitched together like a pair of oxen pulling the heavy wagon of history toward an enlightened future. Hearing the call to “humanize the science and engineering curriculum,” the old-timers went to work. Before long, the department issued a memo inviting faculty to develop courses on the theme of the reciprocal influences of science and society.

Working with fellow physicist and dear friend Steve Bernow and historian of science Ted Brown, I developed an ambitious “science and society” syllabus heavily influenced by J.D. Bernal’s monumental *Science in History*. The Old Leftists, elated by my proposed course, secured formal departmental approval, and from then on, I offered “science and society” every semester. To stay ahead of the students (and the sheriff), I digested shelves of literature drawn from the spectrum of nonscientific disciplines. I was spreading my pedagogic and intellectual wings on a one-way trip from theoretical physics to the terra incognita of interdisciplinary education.

Through the Looking Glass

In the spring of 1973, an intriguing position announcement came to my attention. The Allen Center, a new interdisciplinary college at the State University of New York (SUNY) Albany, was looking for a PhD scientist with college-level experience teaching courses on the interplay of science and society. Bingo! Normally, the downside of the job—relocating from the Big City to the upstate hinterlands—would have been disqualifying. But this one-of-a-kind opportunity had my name on it.

Established in 1972 as a degree-granting unit, The Allen Center was SUNY's response to an upwelling of demands for innovative undergraduate options. Unlike the handful of colleges that had cobbled together "interdisciplinary programs" from department-based classes, the Center was an autonomous college. Its remit was to design a novel curriculum on Man and His Institutions (the gendered formulation an artifact of the time). Notably, the Center was allocated 30 dedicated faculty lines, a generous administrative budget, and its own campus. This budgetary largesse pleased campus progressives but left enraged traditionalists to bide their time.

In April of 1973, with my science and society syllabi in hand, I traveled north for interviews. Over two days of presentations, discussions, and mingling with faculty and students, I felt a growing resonance with the energy and enthusiasm of the place. Administrators assured me that the Allen Center had secure multiyear funding, and that I would be expected to help shape the evolving enterprise. A less persuasive selling point was the claim that Albany had the "perfect location, only three-hours from Boston, Montreal, and New York."

I was delighted to be offered the job. However, Pamela, a diehard New Yorker, did not welcome exile to Albany, but she'd be game if we were able to find a beautiful place to live in the countryside. Her proof of concept was our soon-to-be close friends, Peter Cocks, a political scientist at the Allen Center, and his wife Joan, who lived in the stunning Berkshires. Pam found a pre-Civil War colonial style house in New Lebanon, on the New York side of the Berkshires, some 30 miles southeast of the capital.

The house was an architectural gem surrounded by 45 acres of farmland and woods. It sported a New York State landmark plaque: "House Built in 1800 by Col. Jonathan Murdock, revolutionary soldier." We moved on August 26, 1973, but our introduction to country life was rocky. Two days after our arrival, the most powerful tornado ever recorded in the area upended vehicles at a nearby truck stop, killing three people, and cut a swath of destruction near our new home. In October the OPEC embargo quadrupled oil prices, forcing us to close off a wing of our huge house, turn the thermostat down toward

meat locker territory, and trim our discretionary expenditures. Then, a steady stream of visitors brought The City's pulse (and cockroaches) to our rural hideaway.

The Allen Center faculty was a quirky bunch of smart, highly credentialed academics from diverse disciplines. Under the watchful eye of Dean Seth Spellman, the chain-smoking former chair of the Department of African Studies, our little campus was abuzz with healthy intellectual ferment and pedagogic debate, but also riddled with the interpersonal conflicts and inappropriate peccadillos endemic to university life. Dr. Spellman had the task of shielding the Center from a strident conservative backlash gaining momentum in the 1970s. As the voice of caution, he tried to mute the faculty's political and educational radicalism in the mistaken belief that a patina of conventional legitimacy would pacify detractors.

Chairman Paul

Before I joined the Center, Dean Spellman had recruited political philosopher Stanley Russell to serve as faculty chair. Pompous and narcissistic, Russell was temperamentally ill-suited for nurturing esprit de corps and intellectual discourse among a diverse faculty. As his fey manner and nebulous ideas alienated the staff, he became surly and defensive.

Unaware of the seething discontent, I arrived on the scene suggesting a Marxist-inflected curriculum in the spirit of my City College courses. Colleagues supported my ideas, which was the last straw for the horrified Russell, who fled back to McGill University to reclaim his sinecure. Dean Spellman's instinct was to mount another external search for a new chair, but the faculty, reeling from the previous one, demanded an internal appointment. Spellman and the central SUNY administration were resistant initially, then relented to restore harmony (and save money).

We agreed that the faculty would vote on a new chair at a meeting to be held in a fortnight. Three colleagues announced their candidacy and began politicking for the post. In my judgement, none among this motley threesome—a hard-drinking mathematician, a genteel historian, and a conservative anthropologist (the administration's choice)—had requisite leadership qualities. As it turned out, I wasn't alone.

Surreptitiously, a group of restive colleagues had been deliberating on whom to put forth as an alternative candidate, and they soon had their man. The plotters filed into my small office and, standing cheek to jowl, presented their startling proposal: Raskin for chair. I was taken aback to hear that I was perceived as a "natural leader," which was not my self-image at the time, but I agreed to consider

their flattering proposition. After much soul-searching, I concluded that throwing my hat in the ring would be in both the Center's and my best interest. I won the vote handily, and eventually gained the support of the disgruntled losers and unpersuaded dean.

As chair, I led the faculty and student representatives in a co-creative process that yielded an enriched program and refreshed camaraderie. I was learning executive skills on the job, while gaining confidence as an organizational strategist and manager. I needed that self-assurance to handle such day-to-day aggravations as committee meetings, administrative trivia, interpersonal flare-ups, and a priapic senior professor who wouldn't have lasted a week under today's harassment standards. The leadership competence I developed at the Allen Center would be essential to the success of the Tellus Institute in the subsequent chapter of my career.

Our pedagogic challenge was to find a viable way to balance the desiderata of systemic integration ("the whole") and bottom-up knowledge ("the parts"). The solution was to structure the curriculum into modules comprised of several interrelated courses. As an example, one module spotlighted seventeenth-century England, a time of synergistic scientific, social, and literary transformations. Science, history, and literature classes introduced, respectively, Newton's laws, the Interregnum, and the metaphysical poets. Then, in co-taught integration sessions, we explored mutual influences that bound these distinct dimensions into a holistic process of historical change. Processing such heady material was not easy for undergraduates, but the flashes of comprehension around a classroom attested to the power of integrated learning.

Exit Cue

As the Center's learning curve turned sharply upward, it suffered a fatal blow. SUNY Albany President Louis T. Benezet, citing budget constraints and university priorities, announced that we would be "retrenched." The proximate trigger was the "fiscal crisis of the state" that struck New York in the mid-1970s, prompting budget-slashing across the SUNY system and beyond. Programs lacking political clout and income-generating potential—the corporatization of the university was underway—were on the chopping block. For the campus revanchists, fiscal austerity served as an ideal cover for uprooting nontraditional upstarts. The experimental tide of the Sixties had ebbed, leaving its progeny gasping on the beach.

The Allen Center was axed in June 1975 with a year to phase out. We appealed our case, mounting hard data and scholarly passion that elicited only kind words and empty sympathy. Reluctantly, I turned to the sad task of assisting students with transitioning to conventional majors and

faculty to conventional departments (many became prominent scholars and public intellectuals). For my part, I was offered a professorship in the physics department of a college in New Jersey, which would have been attractive a few years earlier, but now felt like putting life in reverse. Bizarrely, an upstate SUNY campus recruited me for a deanship, but as an accidental administrator, I had no interest.

My past choices had left me out on an academic limb. When I was a newly minted theoretical physicist, I bolted from the research and pedagogic mainstream. Strategic young scientists advance by inculcating and defending the reigning paradigm, whereas my research resolutely questioned the entrenched interpretation of quantum mechanics. As an educator, I diverged from the expeditious path by making socially relevant, interdisciplinary courses my central focus. I got away with it under cover of the surging heterodox subculture in those bygone years.

From an early age, I thought myself destined to be a university professor. But I no longer felt at home in an academia drifting inexorably in an uncongenial direction. Subsequent developments—campus culture wars, identity politics, corporate influence—corroborated these pessimistic premonitions, leaving me grateful I stepped aside when I did. In 1975, I was ready to move on, but to what? I found the answer and came to look back at the demise of my academic career as a well-disguised blessing.

Tellus Institute

These pages have recounted facets of my youthful experience as a red diaper baby, student radical, folk musician, theoretical physicist, and interdisciplinary educator. I wouldn't trade these eventful years for the world, but they led me at age 33 to a professional impasse. Thoughts of turning back to a conventional academic life left me feeling defeated and depressed. But an alternative career direction that somehow combined my research proficiency, leadership skills, and social commitment was nowhere in sight. Then, such a path unexpectedly opened, and I didn't look back.

Origin Story

The phone was ringing as I approached the house, the aforementioned colonial gem Pamela and I rented when I joined the faculty at SUNY Albany. I was returning from a trek around our sprawling acres of woods and farmland accompanied by our sprightly Puli. As Maggie scampered about, chasing creatures springing to life on that June morning in 1975, I was ruminating about my future. I was eager for reinvention, yet as my family's breadwinner, I needed a job.

The dilemma weighed on me as I hurried inside to answer the phone. Rich Rosen, an acquaintance from graduate school days, was on the line hurling an idea out of deep left field. Back in 1969, Rich, a brash fellow physicist, and I had formed the NYC chapter of Science for the People. In that vein, he was now proposing that we create an independent research organization on resource and environmental policy. Skeptical but intrigued, I responded, "That's the best fantasy I've heard in a long time."

In the following weeks, the fantasy stuck with me, gradually morphing from ephemera to concrete business proposition. While I mulled it over, Rich accepted a position at Brookhaven National Laboratory doing energy systems research, a post that would later yield contracts that helped get us off the ground. Feeling stranded in Albany with another year of teaching ahead, I approached three Allen Center colleagues about joining our endeavor. Remarkably, they all jumped at the opportunity.

When Steve Bernow signed on to the venture, my confidence and enthusiasm soared. Steve and I had bonded on the very day I arrived at the Columbia physics department in 1964. The conversation we started that day went on for nearly 40 years, cut short when he succumbed to sepsis in an ill-equipped clinic in Croatia in 2003. Steve was an insatiable bon vivant and broad-spectrum intellectual who shared my passions for adventure, philosophy, politics, and foundations of physics. We were soulmates who studied, played, wrote, and campaigned together. I had brought Steve, an exemplary

interdisciplinary scholar, to the Allen Center, and now we would again be comrades on a new undertaking.

John Stutz, a razor-sharp PhD mathematician from Princeton, also enlisted. In contrast to Steve, a freewheeling personality and big thinker, John was introverted and laser-focused on details. With one grasping the forest and the other the trees, they were an odd but complementary couple. But John's obsession with order in the daylight hours gave way to anarchic nights hitting the bottle. The blackout drinking endangered both him and our nascent enterprise, so we intervened, making drying out a condition for remaining on our team. He joined AA and, after a few failed attempts, stayed sober for good.

Dave Nichols, a political scientist, brought a background in public policy and governmental processes into the mix. Lacking the technical chops of the rest of us, he concentrated on nuts-and-bolts legal, financial, and administrative aspects of our fledgling institute. Still, Dave remained a fish out of water in an organization that built its reputation on quantitative analyses and complex modeling. He made a valiant effort to find a niche, even applying our models to regulatory cases around the country. But feeling marginal seemed to magnify his rebelliousness and contrarianism. I found Dave's idiosyncrasies to be mostly charming, albeit irritating at times, but for John they were grounds for justifiable homicide, and the feeling was mutual.

In the summer of 1975, our motley bunch—taskmaster Paul, cocky Rich, dreamer Steve, introverted John, and quirky Dave—began collaborating on the shape of the new organization and practical steps forward. We were enthusiastic, but everyone else, with the notable exception of my supportive wife, thought our vision quixotic, at best, and perhaps *prima facie* evidence of collective madness. One seasoned friend steeped in the ways of the business world was particularly disheartening: "Intellectuals don't create viable think tanks ex nihilo; entrepreneurs spin them off from larger companies."

Still, we brought formidable resources—distinguished PhDs, analytic firepower, zealous commitment, esprit de corps—to the table. Also, Rich's colossal self-confidence and take-no-prisoners pugnacity were critical assets initially (but later caused nonstop interpersonal conflict and staff discontent). These assets notwithstanding, our venture might have fallen flat, as predicted by our cheerless skeptics, without the essential ingredient of success: truckloads of luck. At a time when

environmental awareness was rising and conventional wisdom was tanking, the stage was set for the arrival of a plucky group peddling innovative, rigorous policy analysis.

Following an intensive year of planning and preparation, Energy Systems Research Group (the original name of the Tellus institute) opened for business in September 1976. From our squalid ESRG office on State Street in downtown Albany, we developed project ideas, wrote proposals, and networked with scores of regulators, donors, and NGOs. For six dry months, we harvested nibbles but no hard cash. Several of us took day jobs to cover business costs and put food on the table; I took a half-time professorship at SUNY's Empire State College. Our comradery sustained hope during that long, dispiriting winter, but just barely. A panicky Dave Nichols tried to persuade us, for our own good, to face reality and abandon an impossible dream. His heart was in the right place, but his timing was awful. A few days later, the dam broke.

We won our first contracts in March 1977. The initial trickle soon became a swelling stream of projects—3,500 over the next forty years. In those first hectic months, we rapidly staffed up with research assistants and administrators, and added a couple of senior researchers who were looking for a simpatico home for their funded projects. We relocated the expanding team to a more business-like office suite directly across the street from our shabby inaugural digs.

ESRG's ballooning portfolio of projects addressed key issues of the day such as electric utility planning, new energy strategies, and environmental degradation. Our early slate of funding sources included state agencies throughout the country, the US EPA and Energy Department, NGOs, and foundations. Notably, our ascent in the world of energy and environment in the late 1970s coincided with the descent of nuclear power. Massive cost overruns and alarming safety concerns refuted the old hype that nukes were too-cheap-to-meter and risk-free. Skeptical regulators and protest groups needed independent studies that challenged industry whitewash, which gave ESRG a steady meal ticket. We were not anti-nuke, per se; we just never met one we liked.

In April 1977, I led a project challenging the need for the Shoreham nuclear power plant on Long Island, the opening chapter in a twelve-year drama that culminated in a Brooklyn Courthouse (more on the Shoreham saga later). To make the case, we built a detailed model for forecasting electricity demand. The New York State Consumer Protection Board, impressed by the analysis, gave us a big contract to enhance the model and apply it to the whole state. Called FACE (Forecasting and Conservation Evaluation), the model painted a granular picture of electricity demand far more

sophisticated than the industry standard. It became a bread-and-butter tool applied in scores of jurisdictions throughout the country.

Full Throttle

In the spring of 1978 with ESRG flourishing, most of us were eager to pull up stakes and move the operation to a more compatible town. We founders were accidental Albanians brought there in our previous lives as academic nomads. Beyond our own lifestyle preferences, there was a strong business case for relocating ESRG to a cosmopolis offering an international airport, good networking opportunities, and deeper human resource pools for staff recruitment and collaboration.

Time to move, but where? Initially, New York City was the leading candidate, not least due to the loyal Gothamite Steve Bernow demanding the right to return. However, the calculus shifted abruptly when Pamela, all this time a graduate student in clinical psychology, landed an internship in Boston. So, in June 1978, staff and family, warm on Boston and cool on Albany, gleefully moved en masse to Beantown.

ESRG occupied the third floor at 120 Milk Street in downtown Boston. The address prompted our utility industry nemeses to dub us "The Milk Street Boys," an epithet we wore proudly. As the projects rolled in with ever larger budgets, we expanded onto three more floors. In 1987, having outgrown the Milk Street building, we leased a huge penthouse space at 9 Broad Street with drop-dead views of the harbor and city where the staff swelled to 85. In 1992, we bought a beautiful double brownstone on Arlington Street in Boston's Back Bay, directly across from the enchanting Public Garden. The elegant Old Boston digs were a perfect home for the institute for the next twenty-five years, and also a very smart, if inadvertent, investment.

As ESRG expanded and diversified, we evolved an internal structure built around semiautonomous thematic groups ("nonprofit centers") and programs within these groups. The foci included water, climate, waste reduction, corporate responsibility, and our old standby, energy and the environment. We conducted policy studies on these topics throughout North America and every continent, wrote many papers and a few books, and gave talks at conferences and public forums.

I had two big jobs. Wearing my CEO hat, I was responsible for the design and implementation of our evolving organizational architecture, internal decision-making processes, and administrative systems. Wearing my research hat, I served as Director of our International Group, which conducted studies in scores of countries (I describe five colorful projects in the next section). Throughout the

1980s, my group worked closely with the Beijer Institute, a Swedish organization with a similar mandate. My connection to Beijer had come through Don Shakow, a brilliant Marxist economist at Clark University, who sought us out when we arrived in Boston. Don introduced me to his radical, globe-trotting colleague Phil O'Keefe, who would be leading a forthcoming multiyear Beijer project in Kenya.

Phil invited me to join him at a 1980 conference outside of Addis Ababa on Ethiopia's energy future, where I would meet the charismatic Beijer Director, Gordon Goodman. A rotund Welchman, Gordon could light up rooms with scintillating wit and, as he might have put it, sing the birds out of the trees with spellbinding eloquence. I was instantly drawn to this scientist-poet and he to me, forming a professional and personal bond that would last until his death at 82 in 2008.

The venue of the conference was an isolated hotel 100 km northeast of Addis. The attendees were officials of the Ethiopian government, scientists from international think tanks, and representatives of Swedish, German, and Dutch aid agencies. We were escorted onto a bus that passed ancient marketplaces, sprawling shanty towns, and enormous posters of Marx, Engels, and Lenin erected following the recent overthrow of Emperor Haile Selassie. Several hours later, we arrived at the hotel situated in a barren landscape pockmarked by deep gullies that had been deforested by desperate peasants and urban charcoal vendors. Incongruously, in that arid terrain, the internal courtyard was dominated by a swimming pool, where late that night inebriated Beijer colleagues marched fully clothed into the deep end. Later, awakened by cackling hyenas, I looked down from the balcony of my room at a phalanx of Ethiopian soldiers pointing their guns into the darkness where hostile Eritrean forces lurked.

My collaboration with Beijer began with Phil's Kenya Fuelwood Project (described below) and continued for a decade in countries throughout Africa. ESRG was formally anointed a Beijer Institute Center, opening the floodgates of Swedish kronor. With Gordon and Phil as guides, I was learning how to build an international operation and gaining the nerve to pitch grandiose projects. In the process, I established solid connections with research institutes, UN bodies, and funding agencies. My outbound journey had reached the edge of the earth in the company of these global visionaries.

By 1990, ESRG had outgrown its name in two different ways. First, as the organization diversified, "energy systems," the initial focus, had become one of several project themes. Second, "research group," a phrase fit for a backroom consultancy, jarred with our new self-understanding that we had become a sustainability institute engaged in shaping the global future. In search of a new moniker, we held a naming contest, offering $100 to the winning submission but the prize money elicited only a handful of unsatisfactory suggestions ("Lorax Institute" was a favorite among younger

staff). But upping the reward to $1,000 in a second round triggered a flood of creative ideas. Following a remarkably passionate debate, ESRG was rechristened the Tellus Institute, a name that invoked the Roman earth goddess. Despite the appearance of nepotism, the prize money went fair and square to the highly literate Pamela Raskin.

In this period, Sweden, the "conscience of the world," resolved to create a major international institute on environmental stewardship. The government's visionary spirit was laudatory, but its initial mandate for the new body— technological assessment—was woefully narrow. Gordon Goodman went into action hoping to persuade Swedish higher-ups to charge the new institute with a far more ambitious remit. A truly consequential institute, we argued in a draft counterproposal, would link environmental issues to economic institutions, governance structures, and cultural values—akin to what we at the Beijer Institute were already doing.

Ultimately, the entire Beijer Institute was rebranded as the new Stockholm Environment Institute (SEI) and, with Gordon as Director, granted a lavish budget. For the next 17 years, the Tellus Institute's International Group had a second identity as SEI-Boston. The affiliation brought my group a generous piece of SEI's core funding and, as pseudo-Swedes, frictionless access to international sponsors and projects. The SEI connection provided me with a high-profile springboard to blue-ribbon panels, keynote addresses, and cutting-edge global change research. In the hectic 1990s, my team and I became known players on an international stage.

In 2001, Tellus marked its twenty-fifth anniversary with an organization-wide reflection on our hectic first quarter-century. We founders looked back with astonishment that the vague vision of 1976 had bred a respected institute with thousands of studies under its belt. Tellus had conducted projects in fifty states and fifty countries at enterprise, community, national, and global levels. Our sponsors included governments, foundations, the UN, NGOs, and a few big companies that backed our corporate responsibility work (we once had contracts with both Greenpeace and General Motors!).

These ruminations culminated in the publication of an anniversary volume, *Halfway to the Future*. The preface set the context: "The story of Tellus has unfolded in the context of staggering changes around it…The forces that are radically reshaping the world have also enlarged our vision…With the strong wind of global change at our backs, we come to the conviction that a major new era of world history has begun to take shape over recent decades."

A new era of Tellus was beginning to take shape, as well. The most rewarding and consequential chapter of the story was still to come. Before telling it, here are five snapshots of noteworthy projects of mine, each with a dramatic denouement.

The Insurrectionist

In the Sixties, my mere presence on campus seemed to spark revolt. When I appeared, Berkeley became the vanguard of the student movement—"Caltech dodged a bullet when I went elsewhere" was my old punchline. When I moved East for graduate school, sleepy Columbia metamorphosed into the epitome of militancy, and when I joined the faculty, City College of New York erupted. Curiously, the pattern continued in my post-academic adventures, as illustrated by my proximity to uprisings in the following cases.

Coup in Kenya

My first project in Africa—the Kenya Fuelwood Project (1980-1982)—was a blockbuster. Phil O'Keefe, the aforementioned dazzling raconteur and life-long friend, led the pathbreaking study of Kenya's energy future. The core project team set up shop in a sprawling house on the outskirts of Nairobi (Kuni Castle). The place served as dormitory, office, and base camp for excursions throughout the country to gather data on energy demand and supply patterns, land cover, and deforestation. My job was to paint a coherent picture from this massive database as a point of departure for projecting trends and analyzing alternative policy scenarios. For that purpose, I created a flexible and detailed computer tool which I called the Long-range Energy and Planning System (LEAP has since been used by planners in 160 countries).

The project was to culminate in a conference planned for August 10-12, 1982, in Nairobi, where we would present our findings to Kenyan decision-makers and stakeholders, funders, and international experts. The President of Kenya, His Honourable Daniel arap Moi, would be opening the conference with a welcoming address. But on August 1, as senior project staff were at work in Boston finalizing our presentation, an urgent Telex arrived with the news that elements of the Kenya Air Force were staging a coup d'etat against President Moi. The mutiny was quickly suppressed, but the August conference was canceled.

Employing his abundant powers of persuasion, Phil quickly got all parties to sign off on revised dates of November 10-12 for the conference. We celebrated at a nearby Boston eatery, where, as we toasted Phil for saving the project, his face froze in terror. In the chaos, he realized, he had forgotten that November 12 was his long-planned wedding date. Fortunately, his exasperated bride was accommodating, the conference was a success, and shortly thereafter, Phil and Di tied the knot (and lived eventfully ever after).

Fratricide in Grenada

A tragic drama played out on the small Caribbean island of Grenada from 1979 to 1983. In the opening act, the New Jewel Movement led by Maurice Bishop overthrew the dictatorial government of Sir Eric Gairy in a bloodless revolution. The NJM suspended the constitution and announced the formation of a socialist People's Revolutionary Government with Bishop prime minister. He appointed his close comrade and childhood friend, Bernard Coard, as finance minister (Coard later became deputy prime minister). As the regime's socialist program gained wide popular support, Grenada became a third-world beacon of hope.

In early 1983, Phil O'Keefe and I realized that, building on the Kenya experience, we had something to offer Grenada: an integrated energy strategy for the island highlighting renewable resources. We quickly wrote a proposal and pitched it to the Grenada desk of the Swedish aid agency. The Swedes enthusiastically ran it by Bishop, who gave the project his imprimatur.

Over the next nine months, my team collected data, fired up our LEAP model, and showed how sunny Grenada could build its energy future on solar, wind, and bioenergy. We found a renewable resource strategy to be highly advantageous compared to the conventional reliance on fossil fuels and centralized electricity generation. By radically reducing energy imports, the strategy would husband scarce foreign exchange, while sparing the environment, creating jobs, and driving development.

We submitted our final report—"Island Energy Study: The Case of Grenada"— in September 1983. We looked forward to presenting the results and discussing next steps at a meeting in the capital city, Saint George's. But before a date could be set, our client was executed. Tensions had been building within the government with Bishop's humanist block on one side and Coard's doctrinaire Marxist-Leninist faction on the other. On October 19, Coard and his mutineers put Maurice Bishop, his pregnant wife, and six loyalists before a firing squad at Fort Rupert. The motives remain hazy for this darkest of days for Grenada and movements inspired by the NJM.

Six days later, the US invaded the island. Coard and his co-conspirators were arrested, and mainstream politicians installed. The island was back on its pre-revolutionary trajectory. Eventually, we published our study in a scholarly journal, then filed it under "what could have been."

Rebellion on Long Island

In 1988, I appeared in Brooklyn Federal Court as a key witness in a multibillion-dollar RICO trial. The plaintiffs in the case, Suffolk County and Long Island citizens groups, charged the Long Island Lighting Company (LILCO) with years of fraudulent misrepresentations pertaining to the construction costs of the company's nuclear power plants. I took the stand to explain to the jury how I knew back in 1977 that LILCO, to justify raising customer rates, had wildly exaggerated its need for the nukes.

The story begins in March 1977 when the New York Consumer Protection Board asked me to review a rate hike request LILCO had filed before the New York State Public Service Commission (PSC). The company needed the increased revenues, it claimed, to finance the completion of its Shoreham nuclear plant, already years behind schedule and billions over budget. But LILCO's rates were already the highest in the nation and ratepayers were growing restive. My job was to take a fresh look at the need for Shoreham, and all the other plants still on the company's drawing board.

My review revealed a glaring fallacy in the company's forecast of future generation requirements. Electricity demand on Long Island had shot up in the postwar years, driven by rapid suburbanization, a booming economy, and the explosion of electrical devices, such as large refrigerators, dryers, and office equipment. LILCO simply extrapolated the exponential growth in this period into the indefinite future. This is impossible in a finite world. As a reductio ad absurdum, I calculated that the weight of nuclear plants needed to meet exponential growth on Long Island would exceed the weight of the earth by 2040.

Having exposed the absurdity of extrapolating aggregate demand, the next step was to produce a more reliable forecast. To that end, I created a disaggregated "end-use" model for tracking the various components of electricity use. This detailed simulation robustly showed that total demand growth on Long Island would level off as anomalous post-war trends played out. Based on this analysis, I testified that Shoreham could and should be delayed, and, therefore, LILCO's rate request should be denied. The argument was solid, but we lost the case when the industry-friendly PSC rubber stamped the rate hike. At least I had the satisfaction of watching Long Island electricity demand plummet in the following years in confirmation of my disregarded forecast and recommendations.

My Shoreham testimony got the attention of Tom Twomey, a founding partner of an established Long Island law firm (now Twomey Latham). At the time, Tom had been retained by a ratepayer group that was a party in another LILCO case before the PSC. In that one, the company was seeking approval to proceed with its next round of nuclear plants to be built near the village of Jamesport. Based on my just

completed forecast showing the lack of need for Shoreham, I knew there was hardly any rush to break ground on more nukes. The Jamesport plants would not be needed for the foreseeable future. Working with Steve Latham, Tom's young partner, I improved my demand forecasting model and submitted testimony in April 1977 explaining why Jamesport could be indefinitely delayed. I concluded that the company was *imprudent* (a legally laden word) in pursuing an unneeded project. LILCO fought back ferociously but offered no new evidence. Nevertheless, the biased PSC again approved the rate increase.

Flash forward from 1977 to 1988. In the intervening years, the anti-LILCO movement exploded. The Three Mile Island and Chernobyl accidents brought a life-and-death question to the fore: How would people escape a meltdown at Shoreham? LILCO's emergency evacuation plan—residents would drive en masse toward New York City—was patently risible to anyone familiar with standstills on the Long Island Expressway during normal rush hours. In 1985, Hurricane Gloria overwhelmed LILCO's response capacity, demolishing what remained of public confidence in the company.

Even Governor Mario Cuomo became an outspoken critic of the Shoreham project, and the state government subpoenaed the company's back files seeking evidence of mismanagement. In a damning internal memo from 1977, LILCO's CEO acknowledged that Raskin's demand forecast was probably right, but the company's external communications would continue to rely on its official forecast. When LILCO then stuffed monthly customer mailings with statements it knew to be inaccurate, it committed, in the view of plaintiffs, mail fraud under RICO.

Nearly a dozen years after I had testified that LILCO's nuclear investments were "imprudent," I took the witness stand to explain to a jury of ordinary citizens how I came to that conclusion in 1977. Looking back from the vantage point of 1988, it was crystal clear that I had been right, but my task was to show why the company should have known—or knew—what I knew. The technical arcana dumbfounded some of the jurors who stared at me with the blank faces of students in my physics classes.

But the jury got the gist of the argument and returned a verdict of guilty. Finally, we won a case—the big one. A settlement followed: New York State agreed to drop the huge RICO penalties and LILCO agreed to sell Shoreham to the state for $1. The plant was decontaminated and mothballed at great expense and left to stand idly on the North Shore, a monument to this day of hubristic folly.

Collapse of the USSR

From 1989 to 1991, I led a collaboration between the Tellus Institute and the Soviet Academy of Science on the Aral Sea, a disappearing saline lake in Central Asia. Once the fourth largest lake in the world by surface area, it had already shrunk by half at the time of the project. The desiccated Sea was the most visible manifestation of a massive human and environmental disaster unfolding across five Soviet republics: Uzbekistan, Tadzhikistan, Kirgizstan, Kazakhstan, and Turkmenistan.

The poster child of social-ecological breakdown, the region stands as a warning of the consequences of environmentally feckless development. Decades earlier, fateful planning decisions were made in Moscow that made high-input agriculture the foundation of Central Asian economic development. The emphasis on irrigated farming would seem counter-indicated in this barren region, but its two mighty rivers were a tempting source of water supply. The Amu Darya and the Syr Darya originate in the glaciers of mountain ranges to the east, run 600 miles across steppes and deserts, and discharge into the Aral Sea, providing the lake's only input.

Soviet planners in the 1950s and 1960s knew that diverting river water for irrigation would sacrifice the Aral Sea, but thought it was worth it. According to their calculations, the economic benefits of the additional crops would exceed the economic costs of shrinking the sea. On that dubious basis, the government created vast irrigation fields and water distribution systems, including the 600-mile Karakum canal carrying water to far off deserts in Turkmenistan. Huge swaths of land were converted to crops, much for cotton monoculture and water-intensive rice cultivation.

Those old cost-benefit calculations were wildly, tragically erroneous. Estimates of economic costs, associated mainly with losses in the fishing industry, failed to consider the vast ecological disturbances triggered by the shrinking sea. The rosy planners even assumed that the former lakebed exposed by the receding shoreline would become arable land, registering the additional farmland as a benefit. Instead, the thousands of miles of new land became a hellscape of toxic chemicals. Windstorms carried the noxious residue across the region, impairing public health and salinizing the soil, which, in a vicious loop, required additional irrigation applications to flush the salt, thus accelerating the recession of the Sea.

When I attended a conference in Nukus, Uzbekistan, our hosts organized an air tour of the Aral Sea. We boarded a 1930s vintage canvass-winged biplane that cruised at an altitude of about 200 feet speed of 60 mph. We sat on crude benches observing the immense moonscape through an open door as fellow passengers lost their breakfast. We landed in Muynak, a former fishing town now 80 miles from

the sea, where a huge vehicle drove us across the salt desert scattered with abandoned boats—a canal to the receding lake could not be built fast enough. Then we visited a cannery that once processed Aral Sea fish but was now operating with fish flown in from the Caspian Sea to preserve jobs in the doomed town.

Our study had the bold aim of formulating a strategy for reversing the desiccation of the Aral Sea. At the time, Moscow was considering a bizarre proposal: rerouting northern flowing Siberian rivers south to feed the Aral. The plan smacked of the mindset—ecologically insensitive technological gigantism—that had caused the problem in the first place. But in the 1980s, with the USSR roiled by Gorbachev's glasnost and perestroika, the river-reversing plan was met with popular resistance. It was this nascent environmental movement pushing for sustainable solutions that paved the way for our project.

We first modeled the region's intertwined social, economic, hydrological, and environmental patterns. A Russian colleague and I traversed Moscow collecting data from government offices and research centers, and consulting with hydrologists, agronomists, engineers, and economists. Each told a part of the Aral story, but none had an integrated analysis. Hence, I built a computer tool called the Water Evaluation and Planning (WEAP) System, loaded it with a large database, and built a picture of what was going on in the region.

The model projected deepening calamity ahead if current trends were allowed to persist. I presented these initial findings at the Nukus conference before launching the project's next phase: a comprehensive plan of action for saving the Aral and mitigating regional environmental and social degradation. At the strategic core of our scenario was action to restructure the regional economy to make it less water-intensive and reliant on irrigated agriculture. As an example, the development of a Central Asian textile industry would add value to the local economy rather than see cotton continue to be exported to the thriving textile industry in East Europe.

Alas, our visionary scenario exercise was aborted in August 1991 when the Soviet Union unraveled. My Soviet colleagues became personae non grata in the now openly rebellious Central Asian republics. In the pell-mell transition to independent countries, the Aral Sea problem was put on hold. When the political dust settled, coordinated action of the five contentious states became impossible, condemning the Sea to dwindle to the lifeless puddles you'll find today. Our project and the vision of sustainability vanished in the toxic sands of time.

Intifada

We went on to apply the WEAP model in scores of water studies throughout the world. In a memorable project of 1999, we teamed up with Israeli and Palestinian experts to explore alternative schemes for equitably sharing water in that water-scarce region. Hope for a peaceful two-state solution was in the air, and water allocation to the two sides was among the vexing issues to be negotiated. Guaranteeing adequate Palestinian water rights is an essential element for a lasting peace. Since Palestinian per capita usage is far lower than Israeli's (about one-fourth today), closing the gap without compromising the Israeli economy poses difficult challenges.

Our collaborative project aimed to open a solution-oriented dialogue among Palestinian and Israeli decision-makers. But first we had to build trust and consensus among scientific experts representing each side. Our integrated study looked at all resources and withdrawals, including the Jordan River shared by Israel, Palestine, Jordan, and Syria. A major focus was the Mountain Aquifer, a vital water source lying under both Israel and the West Bank. The aquifer is replenished east of the Green Line, then gradually flows toward the Mediterranean, oblivious to political boundaries.

The role of my team was to fire up WEAP to replicate the current water supply and demand patterns, then simulate alternative scenarios devised by our mid-East colleagues. We succeeded in creating a baseline picture, a real accomplishment since the two sides contested the basic data. The next milestone was to be a weeklong workshop where Israeli and Palestinian government officials, academics, and stakeholders would play games together using WEAP to explore water futures. Such participatory exercises can help clarify the problem, challenge preconceptions, and promote mutual understanding.

The geopolitical and technical complexity of the analysis slowed our progress, but in the summer of 2000, we were ready to go. The international workshop was set for November 2-6 in Istanbul. It was not to be. Ariel Sharon entered the Temple Mount on September 28 with one thousand armed Israeli police. This audacious display sparked the Second Intifada, making continued collaboration among our team impossible. We suspended the project and postponed the conference, awaiting a more favorable political context. Still waiting.

Reinvention

From the start, Tellus had been attuned to emerging issues in a rapidly changing world. As an independent institute, we had the flexibility and inclination to redirect the organization's program toward salient new challenges. In the early years, our projects focused on specific issues in specific places—an energy plan in Kenya, a water analysis in California, a nuclear power plant in New Hampshire, an environmental master plan in Beijing, a waste management scheme in New York City, and so on.

With time, a new suite of global problems gained prominence. Correspondingly, the Tellus work program enlarged to encompass such macro-issues as climate change, sustainability, alternative futures, and systemic transition, concepts that were not on the radar in 1976. We layered this global change research over our traditional activities, but we were becoming two institutes under one roof, one long-term and transformational, the other near-term and reformist.

To re-establish internal organizational coherence, Tellus transformed itself between 2003 and 2005. In announcing a new phase of the institute, we founders noted previous "vital moments of organizational renewal" that kept the Institute from becoming "either unviable or uninteresting, or both." The incremental policy studies of the past would no longer be our priority. Going forward, we would seek projects that advanced a systemic transition to an ecological and equitable global civilization. In brief, Tellus would shift "from a Policy Reform institute to a Great Transition institute."

To pursue this lofty mission, we needed to mobilize and focus the organization's intellectual, administrative, and financial resources on cutting edge questions: the character of the historic crisis, the shape of the future, and efficacious forms of collective action. A leaner and meaner Tellus was relaunched in 2005 with the tagline *for a Great Transition*. Painfully, we eliminated long-thriving programs, declined new grants and contracts, and reduced our sprawling staff to a small core willing and able to contribute to the new mission. To departing staff, we bequeathed our clients, bread-and-butter programs, and golden geese computer models, thereby spinning off several new organizations that carried on our established lines of work. For the founders, the new Tellus was the fulfillment of our 1976 hope of creating a clear, strong voice for fundamental social change.

Nudging the World

Workshift/Worldshift

In 1976, I bid farewell to academia with the vague intention of pursuing a more socially relevant career. We created the Tellus Institute (née ESRG) as the vehicle for research in the service of environmental protection and social equity. I had no idea where this venture would take me; certainly not that it would lead ultimately to the broadest of concerns: the outlook for planetary civilization.

Whether by mere coincidence or subtle forces of synchronicity, my big career shift was coterminous with a big historical shift that was to enlarge the scope of my work. In the closing decades of the twentieth century, the world was changing rapidly. Threads of interdependence multiplied, lengthened, and strengthened, weaving disparate places together as an overarching planetary place. The whole world and all its creatures were becoming entangled as one community of fate with shared crises, risks, and opportunities. History had entered the *Planetary Phase of Civilization*.

The bumpy transition to this new phase is marked by far-reaching crises, institutional instability, and a zeitgeist of deepening apprehension. The modern era, with its incessant growth, environmental domination, and a contentious interstate order, has reached its endgame. But the shape of the successor civilization remains deeply uncertain and highly contested. In the chaotic interregnum, it's easier to imagine a new Dark Ages descending than anything resembling business-as-usual. Still, the possibility remains that the systemic crisis could foster a systemic shift to a better world.

Toward a Great Transition

The seeds of this line of thinking planted themselves in my consciousness in the mid-1980s. At that time, I served on the drafting team for *Our Common Future*, the highly influential report of the UN World Commission on Environment and Development (known as the "Brundtland Commission"). The report's indelible contribution was to introduce the idea and project of "sustainable development" into international policy and research agendas.

But the Brundtland Commission failed, in the view of us dissidents, to convey the significance of the historic challenge and the deep shift needed to avert a downward spiral. Instead, it put forth a "tech fix" strategy of market adjustments and policy tweaks that addressed the symptoms not the underlying disease. The Commission remained silent on underlying drivers of unsustainability—the growth imperative baked into the DNA of capitalism, consumerist culture, fractious geopolitics, and a "development" model in which poor countries converge toward rich-country patterns. The Commission's reformism became the dominant policy paradigm for pursuit of sustainable development.

By contrast, I came to see sustainability as one aspect of a wider search in the twenty-first century for a flourishing civilization. The transformative times we lived in called for fundamental societal change beyond anodyne reforms. My organization was well situated to address the analytic and political deficiencies and lacunae of the mainstream discourse, inaugurated by the Brundtland Commission. Indeed, as I noted earlier, we had rechristened our institute "Tellus" after the Roman Earth goddess, as we turned toward integrated analyses of social-ecological systems.

My focus was on understanding and shaping the whole global system, an agenda pursued through a sequence of increasingly ambitious projects. Gordon Goodman, the Director of the Stockholm Environment Institute, and I took the plunge with the launch of the PoleStar Project (1990—1995). The aim was to build a conceptual framework for grasping the historic moment and thinking about alternative futures. The project created the PoleStar System, a data-intensive computer tool for painting quantitative pictures of alternative scenarios.

The PoleStar Project segued naturally into the Global Scenario Group (1995—2002). Ecologist Gilberto Gallopín and I created GSG as an international, interdisciplinary collaboration. The group's widely read valedictory essay *Great Transition: The Promise and Lure of the Times Ahead*, written for a broad readership, summarized our perspective and findings.

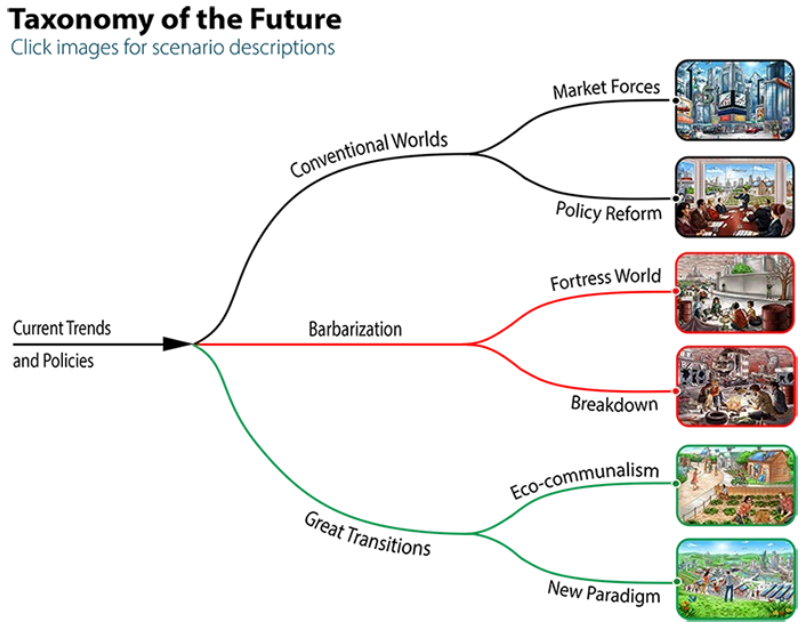
The essay became the point of departure for an enlarged effort called the Great Transition Initiative (2003—2025), with the tag line "Toward a Transformative Vision and Praxis." The project assembled a by-invitation network that grew to one thousand prominent scholars and activists. Its multiyear discourse generated over 5,000 pages of essays, interviews, and forums focusing on key sectoral, thematic, and political dimensions. GTI contributed two unique resources—a rich body of theory and a peerless international network—to the nascent movement for a Great Transition.

Three decades of collaborative work on building the Great Transition framework generated answers to four archetypal questions, very briefly summarized here:

Where are we? A macro-transition is underway to a new stage of history (*Planetary Phase of Civilization*) in which the scale of human activity has reached the scale of Earth. An interdependent social-ecological system now intertwines the fates of all people and the larger community of life. The reigning world order, rooted in voracious capitalism and contentious states, carries us deeper into multiple, reinforcing crises. We enter the Planetary Phase with a legacy institutional architecture ill-adapted for managing the polycrisis it generates. Because of this disjuncture, faith in conventional development has become a dangerous illusion. The delegitimization of the mainstream begets populist

demagoguery feeding off reactive anger, fear, and xenophobia, but also a new cosmopolitanism attuned to our shared global destiny.

Where are we going? From the chaos of transition, the historical trajectory can branch in contrasting directions. Three archetypal visions—Conventional Worlds, Barbarization, and Great Transitions—capture broad possibilities (see figure). Conventional Worlds reliance on market mechanisms and reformist policies makes descent into Barbarization increasingly likely, although a swerve in history's trajectory toward more favorable outcomes remain plausible.



Where do we want to go? A shift to a Great Transition is both necessary and possible, but hardly guaranteed. In this vision, global citizenship emerges as an outer layer of nested identities stretching from diverse communities to the planet. Human values swing toward solidarity, ecology, and quality-of life and away from ethno-nationalism, domination of nature, and consumerism. Cooperative economies designed to sustain people and planet displace capitalist economies rooted in greed and the profit motive. Transnational governance structures matched to Planetary Phase challenges address our common crises and opportunities. I imagine such a Great Transition future in *Journey to Earthland: The Great Transition to Planetary Civilization* (pp. 71-108).

How do we get there? As the years pass and storm clouds gather, this critical question demands our attention with ever more urgency. Each of the scenarios depicted above features pivotal social actors for advancing its narrative arc. Global corporations and ruling strata are leading characters in Conventional Worlds stories. Authoritarians, ethno-nationalists, and jingoists have starring roles in tales of Barbarization. These dramatis personae strut prominently on contemporary global stage. But where is the leading actor that will drive a Great Transition?

Imagine All the People

The planetary predicament has spurred tens of millions into action. A vast constellation of organizations, movements, and campaigns are tackling the multitude of grievances, conflicts, and perils spawned by the deepening polycrisis. This Cambrian explosion of diverse forms of progressive public engagement brings wisps of hope to a sorry world.

Surging activism stands as a necessary precursor to a movement for a Great Transition. Necessary but not sufficient. Taken collectively, these efforts remain too fragmented, too myopic, and too defensive for the task of transformation. The gains they painstakingly win here and there are overwhelmed by systemic deterioration. Awareness and action have yet to reach the requisite scale and coherence for driving a holistic shift.

Recent decades have not been kind to a Great Transition. The bad news has taken two forms: *what has happened* and *what has not happened.* Tangible ecological, political, and cultural deterioration extrapolate toward a barbarized abyss. What has not happened is the coalescence of a consequential cultural and political force for civilizational renewal. At a historical fulcrum, we swing toward darkness desperately looking for an answer to the existential question: who will change the world?

The appearance of a planet-wide movement aligned with the imperatives of the Planetary Phase is long overdue. We see hints of it in justice, peace, and environmental campaigns. We see it in street demonstrations under the banner “system change not climate change.” We see it in scientific understanding of our fragile biosphere and paths to a safe harbor. We see it in critical scholarship, post-consumerist lifestyles, and experiments in cooperative economies. We see it in indigenous worldviews and the visionary search for a new meaning of development.

Although the critical actor for a Great Transition—a *global citizens movement*—remains missing from the global stage, it may be gathering in the wings. The imagined GCM would appear as an ecology of formal and informal associations working on a thousand fronts from local to global levels. It would assert power culturally, by shaping ideas and behavior; tactically, through actions that challenge the

status quo; and strategically, by building institutions for sustained political influence. Diverse multitudes would act under a broad carapace of shared values and visions, proto-citizens of Earthland, the meta-country with no name.

The signature feature of the Planetary Phase—one global community of fate—is the historical precondition for this kind of movement. Our interdependent lives, institutions, and vulnerabilities urge enlarged consciousness, solidarity, and collective action. But powerful barriers—entrenched power structures, regressive ideologies, cultural inertia—stand in the way. Perhaps the most debilitating obstacle is the endemic despair paralyzing so many potential comrades.

These are daunting impediments, but with the stakes sky high, the only valid response is to double down. The long game is still on and, with cards to play, it's too soon to fold. Hope is buoyed by the one certainty about the future: surprise. Desperately needed now are legions of catalysts working to coalesce a great movement for a Great Transition. That's what I'll be doing for as long as I'm able, the next leg of the outbound journey I embarked on with the childhood epiphany recalled in the opening paragraphs of this chronicle.